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FURY

BY
LAWRENCE
O'DONNELL

Reg. U. S. Pat. Off.

STREET & SMITH'S ASTOUNDING SCIENCE-FICTION MAY 1947

MONEY ISN'T EVERYTHING-

(OR IS IT?)

BY GROUCHO MARX

WHAT do you want to save up a lot of money for? You'll never need the stuff.

Why, just think of all the wonderful, wonderful things you can do *without* money. Things like—well, things like—

On second thought, you'd better keep on saving, chum. Otherwise you're licked.

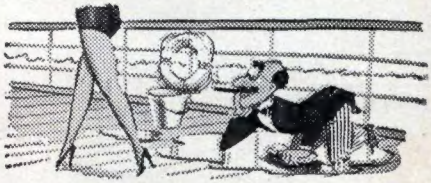
For instance, how are you ever going to build that Little Dream House, with-

out a trunk full of moolah? You think the carpenters are going to work free? Or the plumbers? Or the architects? Not those lads. They've been around. They're no dopes.

And how are you going to do that world-traveling you've always wanted to do? Maybe you think you can stoke your way across, or scrub decks. Well, that's no good. I've tried it. It interferes with shipboard romances.

So—you'd better keep on saving.

Obviously the best way is by continuing to buy U. S. Savings Bonds—through the Payroll Plan.



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NEXT ISSUE ON SALE MAY 20, 1947

DIMINISHING CRESCENDO

The atomic piles are at work; atomic engineers are at work designing piles to produce power and plutonium instead of plutonium alone. And Hans Bethe, the Manhattan Project physicist who described—mathematically—what an atomic bomb explosion would look like before Alamagordo says "We are not real nuclear physicists; we are just nuclear engineers." To date, the release of energy from the super-heavy nuclei is strictly an engineering proposition—a rule of thumb, trial-and-error business. In the early days of electrical engineering, it was perfectly and strictly true that the engineers didn't know what it was they were working with, but they knew how to make it do certain things. As of 1890, that was the situation. We had electric lights, telephones, electric motors, generators, magnets, telegraphs—a host of gadgets. But no one had any idea what electricity was.

Obviously, if you don't know what the force you're working with actually is, you can't know what it can do—you can only know *some* of the things it will do. Not knowing of electrons, or electron flow, the best engineer couldn't design an electron microscope, a triode amplifier tube, or a television image orthicon. The General Electric engineers who first made transformers didn't know just what they were making; the General Electric engineers who designed and built the 100,000,000 volt betatron knew they were making a transformer with a vacuum-tube secondary using orbital rotation of the electrons instead of turns of copper wire. That took electronic physics, not just engineering.

One U-235 nucleus plus one neutron yields two fission products plus two or more new neutrons—a simple engineering equation. But it's not nuclear physics. No more than two hydrogens plus one oxygen yields one water molecule, which is sound engineering but doesn't attempt to define *why* it happens.

A bit over a century ago, John Dalton reduced the atomic theory to engineering operation; with the atomic theory, a system of chemical notation and chemical mathematics became possible. Progress could be made. And the chemists dropped out of the atomic research story; they knew all *they* needed—they thought!

Democritus' idea of the *atom*—the uncuttable unit of matter—was what we now call a molecule. Dalton's work split the molecule into structure, and gave us the modern concept of the atom as the indivisible unit.

The physicists of the last decade of the Nineteenth Century broke off electrons; with the aid of natural radioactives in the first decade of the Twentieth Century, they derived the general outline of atomic structure. By 1933, the atom was composed of neutrons, protons, electrons and positrons. The story of the atom and its structure was, seemingly, about solved.

But in carbon-11, a proton emits a positron, and become a neutron, changing the unstable C-11 into stable boron—B-11. In C-14, a neutron emits an electron, changing itself into a proton, and the C-14 becomes stable nitrogen-14. Evidently, we have reached a new level of structure; the proton and the neutron are not, obviously, the elementary particles we thought them; they, too, have structure.

The atomic engineers work with pile design. The atomic physicists have left the piles, though; some are working with pre-war cyclotrons, or newly completed pre-war designed cyclotrons. But some are working with new designs. Linear accelerators and synchotrons and super-super cyclotrons. It takes from 50,000 to 50,000,000 volt energies to crack a nucleus for study. Even then, studying nuclear

structure becomes something of the sort of job you'd have if you studied watch design by cracking watches with ten-pound mauls and inspecting the pieces.

The nucleons — the neutrons and protons — are far tougher than the nucleus of an atom. That's expectable. You can crack a water molecule with a 1.5 volt dry cell — but it takes millions of volts to crack the oxygen atom you get out. The parts that come from the cracked oxygen atom, though, take not millions, but billion-volt energies. The new nuclear physics heavy ordnance is designed to produce particle energies in the range of 500,000,000 to 1,500,000,000 volts.

When you rearrange hydrogen and oxygen atoms to make water, energy is released. When uranium nuclei and neutrons are rearranged, enormously greater energy is released. It's a fair bet that when you rearrange the structure of a proton or neutron, *all* the energy will be released. And that energy won't have to be derived from two elements in the Earth —thorium and uranium. It can be derived from any matter whatsoever.

The present probabilities appear to be that the engineers will continue to work with the atomic piles, gaining highly valuable information—and the physicists will work with their super-high energy devices, gaining immensely valuable basic understanding. Just as the knowledge of electrons made the fuller use of electrical energy possible, so a fuller understanding of nucleonic structure will, almost certainly, make the fuller use of atomic energy possible.

Somewhere inside the nucleon is the secret of gravity, of inertia, and of the strange force called "binding energy" or "exchange forces"—forces so titanic that, when they slip very slightly, and allow a uranium nucleus to rearrange itself into two new nuclei, the inconceivable violence of the atomic bomb results.

The atomic physicists — if the atomic politicians permit the continued existence of our culture — should, within the next five years, begin to get some glimpses of the structure of the nucleon. These first glimpses will be of immense aid in redesigning atomic energy devices, and lead to entirely new concepts of atomic energy release. (The nuclear physicist, buried in the morass of technical problems, is usually overconservative in his estimates of what he and his brother workers can accomplish in a given period of time. He is so keenly and painfully aware of the difficulties he tends to underestimate the triumphs. Nuclear physicists will, almost certainly, object to that five-year estimate. I do not claim that the new concepts will be applied and working within five years; only that the new concepts will be turned over to the engineers by that time.)

Since research is a self-accelerating phenomenon, fifteen years time may see the first efforts at harnessing nucleonic as distinct from nuclear energy. In 1932 the first cyclotron was in operation; in 1942 the first atomic pile was working.

United Nations control and inspection may work to restrain atomic weapons; the mining and refining of uranium and thorium are large-scale enterprises. But the whole concept of world government, and world, rather than national, allegiance better be well established before the first nucleonic energy device goes into operation. Water and air can't be inspected and controlled.

And my hunch is that "It Is Later Than You Think." Considerably so. The smaller they are, the harder they fall—and the harder they are to regulate, the more common their occurrence, the more horrific their power.

And, concomitantly, the more miraculous the potentialities.

Only knowledge of electrons could produce radar. No one can even guess what powers lie inherent in nucleonic physics.

THE EDITOR.

FURY

BY LAWRENCE O'DONNELL

***Part One** of Three. A new novel of the undersea civilization of Venus—an undersea civilization that couldn't make up its mind to crawl out of the comfortable, but throttling, shells, the great Keeps. A sequel to "Clash By Night."*

Illustrated by Orban

INTRODUCTION

It was white night upon Earth and twilight's dawn on Venus.

All men knew of the shining darkness that had turned Earth into a star in the clouded skies. Few men understood that on Venus dawn had merged imperceptibly into dusk, in an era that never knew noon. For as the slow twilight drew on, the undersea lights flamed brighter and brighter, turning the great Keeps into enchanted citadels beneath the shallow sea.

Seven hundred years ago those lights were brightest. Six hundred years had passed since the destruction of Earth. It was the Twenty-seventh Century.

Time had slowed now. In the beginning it had moved much faster. There was much to be done, and the advanced technologies of the period had a nearly impossible task to fulfill. Venus was uninhabitable. But men had to live on Venus.

On Earth the Jurassic had passed before humans evolved into a reasoning race. Man is both tough and fragile. How fragile will be understood when a volcano erupts or the earth shakes. How tough will be understood when you know

that colonies existed for as long as two months on the Venusian continents.

Man never knew the fury of the Jurassic—on Earth. On Venus it was worse. When you pull a weed from the hydroponic tanks, you may think of the cycads of a forgotten age; when you see a small, darting lizard, you may remember that giants once walked the earth in this guise. And Venus was alien land. Its ecology paralleled, but was not identical, with the ecology of Earth.

Man had no weapons to conquer the Venus lands. His weapons were either too weak or too potent. He could destroy utterly, or he could wound lightly, but he could not live on the surface of Venus. He was faced with an antagonist no man had ever known, because the equivalent had perished from Earth before marsupials changed to true mammals.

He faced fury.

And he fled.

There was safety of a sort undersea. Science had perfected interplanetary travel and had destroyed Earth; science could build artificial environments on the ocean bottom. The impervium domes were built. Beneath them the cities began to rise.

The cities were completed.

As soon as that happened, dawn on Venus changed to twilight. Man had returned to the sea from which he sprang. The race had returned to the racial womb.

Despair thy charm;
And let the angel whom thou still hast serv'd
Tell thee, Macduff was from his mother's womb
Untimely ripp'd.

—Shakespeare

Sam Harker's birth was a double prophecy. It showed what was happening to the great Keeps where civilization's lights still burned, and it foreshadowed Sam's life in those underwater fortresses and out of them. His mother Bessi was a fragile, pretty woman who should have known better than to have a child. She was narrow-hipped and tiny. Sam tore the life out of her before the emergency Caesarean released him into a world that he had to smash before it could smash him.

That was why Blaze Harker hated his son with such a blind, vicious hatred. Blaze could never think of of the boy without remembering what had happened that night. He could never hear Sam's voice without hearing Bessi's thin, frightened screams. The caudal anesthesia hadn't helped much, because Bessi was psychologically as well as physically unfit for motherhood. And Blaze never saw Sam's red hair without thinking of blood.

Blaze and Bessi—it was a Romeo and Juliet story with a happy ending, up to the time Sam was conceived. They were casual, purposeless hedonists. In the Keeps you had to choose. You could either find a drive, an incentive — be one of the technicians or artists — or you could drift. The technologies made a broad field, everything from thalassopolitics to the rigidly limited nuclear physics. But drifting was easy, if you could afford it. Even if you couldn't, lotus-eating was cheap in the Keeps. You simply didn't go in for the expensive pleasures like the Olympus rooms and the arenas.

Still, Blaze and Bessi could afford the best. Their idyll could make a saga of hedonism. And it seemed that it would have a happy ending, for in the Keeps it wasn't the individual who paid. It was the race that was paying.

After Bessi died, Blaze had nothing left except hatred.

These were the generations of Harker:

Geoffrey begat Raoul; Raoul begat Zachariah; Zachariah begat Blaze; and Blaze begat Sam.

Blaze relaxed in the cushioned seat and looked at his great-great-grandfather.

"You can go to the devil," he said. "All of you."

Geoffrey was a tall, muscular, blond man with curiously large ears and feet. He said, "You talk like that because you're young, that's all. How old are you now? Not twenty!"

"It's my affair," Blaze said.

"I'll be two hundred in another twenty years," Geoffrey said. "I had sense enough to wait till I was past fifty before fathering a son. I had sense enough not to use my common-law wife for breeding. Why blame the child?"

Blaze stubbornly looked at his fingers.

His father Zachariah, who had been glaring silently, sprang up and snapped, "He's psychotic! Where he belongs is in a psych-hospital. They'd get the truth out of him!"

Blaze smiled. "I took precautions, Father," he said mildly. "I took a number of tests and exams before I came here today. Administration's aproved my I.Q. and my sanity. I'm thoroughly compos mentis. Legally, too. There's nothing any of you can do, and you know it."

"Even a two-week-old child has his civil rights," said Raoul, who was thin, dark, elegantly tailored in soft celoflex, and seemed wryly amused by the entire scene. "But you've been careful not to admit anything, eh, Blaze?"

"Very careful."

Geoffrey hunched his buffalo shoulders forward, met Blaze's eyes with his own cool blue ones, and said, "Where's the boy?"

"I don't know."

Zachariah said furiously, "My grandson—we'll find him! Be sure of that! If he's in Delaware Keep we'll find him—or if he's on Venus!"

"Exactly," Raoul agreed. "The Harkers are rather powerful, Blaze. You should know that. That's why you've been allowed to do exactly as you wanted all your life. But that's stopping now."

"I don't think it is stoping," Blaze said. "I've a great deal of money of my own. As for your finding . . . *him* . . . have you thought that it might be difficult?"

"We're a powerful family," Geoffrey said steadily.

"So we are," Blaze said. "But what if you can't recognize the boy when you find him?"

He smiled.

The first thing they did was to give him a depilatory treatment. Blaze couldn't endure the possibility that dyed hair would grow back red. The baby's scanty growth of auburn fuzz was removed. It would never grow again.

A culture catering to hedonism has its perversions of science. And Blaze could pay well. More than one technician had been wrecked by pleasure-addiction; such men were usually ca-

pable—when they were sober. But it was a woman Blaze found, finally, and she was capable only when alive. She lived when she was wearing the Happy Cloak. She wouldn't live long; Happy Cloak addicts lasted about two years, on the average. The thing was a biological adaptation of an organism found in the Venusian seas. It had been illegally developed, after its potentialities were first realized. In its native state, it got its prey by touching it. After that neuro-contact had been established, the prey was quite satisfied to be ingested.

It was a beautiful garment, a living white like the white of a pearl, shivering softly with rippling lights, stirring with a terrible, ecstatic movement of its own as the lethal symbiosis was established. It was beautiful as the woman technician wore it, as she moved about the bright, quiet room in a tranced concentration upon the task that would pay her enough to insure her death within two years. She was very capable. She knew endocrinology. When she had finished, Sam Harker had forever lost his heritage. The matrix had been set—or, rather, altered from its original pattern.

Thalamus, thyroid, pineal — tiny lumps of tissue, some already active, some waiting till the trigger of approaching maturity started the secretions. The infant was unformed, a somewhat larger lump of tissue, with cartilage for bones and his soft skull imperfectly sutured as yet.

"Not a monster," Blaze had said, thinking about Bessi all the time. "No, nothing extreme. Short, fleshy —*thick!*"

The bandaged lump of tissue lay still on the operating table. Germicidal lamps focused on the anaesthetized form.

The woman, swimming in anticipated ecstasy, managed to touch a summoning signal-button. Then she lay down quietly on the floor, the shining pearly garment caressing her. Her tranced eyes looked up, flat and empty as mirrors. The man who came in gave the Happy Cloak a wide berth. He began the necessary post-operative routine.

The elder Harkers watched Blaze, hoping they could find the child through his father. But Blaze had refined his plan too thoroughly to leave such loopholes. In a secret place he had Sam's fingerprints and retina-prints, and he knew that through those he could locate his son at any time. He was in no hurry. What would happen would happen. It was inevitable—now. Given the basic ingredients, and the stable environment, there was no hope at all for Sam Harker.

Blaze set an alarm clock in his mind, an alarm that would not ring for many years. Meanwhile, having faced reality for the first time in his life, he did his utmost to forget it again. He never forget Bessi, though he tried. He plunged back into the bright, euphoric spin of hedonism in the Keeps.

The early years merged into the unremembered past. Time moved more slowly for him then. Days and

hours dragged. The man and woman he knew as father and mother had nothing in common with him, even then. For the operation had not altered his mind; his intelligence, his ingenuity, he had inherited from half-mutant ancestors. Though the mutation was merely one of longevity, that trait had made it possible for the Harkers to rise to dominance on Venus. They were not the only long-lived ones, by any means; there were a few hundred others who had a life-expectancy of from two to seven hundred years, depending on various complicated factors. But the strain bred true. It was easy to identify them.

There was a carnival season once, he remembered, and his foster parents awkwardly donned finery and went to mingle with the rest. He was old enough to be a reasoning animal by then. He had already seen glamour from a distance, but he had never seen it in operation.

Carnival was a respected custom. All Delaware Keep was shining. Colored perfumes hung like a haze above the moving Ways, clinging to the merrymakers as they passed. It was a time when all classes mingled.

Technically there were no lower classes. Actually—

He saw a woman — the loveliest woman he had ever seen. Her gown was blue. That does not describe its color in the least. It was a deep, rich, different blue, so velvety and smooth that the boy ached to touch it. He was too young to understand the subtlety of the gown's cut, its sharp, clean lines, the way it enhanced the woman's face and her corn-yellow hair. He saw her from a distance and was filled with a violent need to know more about her.

His foster mother could not tell him what he wanted.

"That's Kedre Walton. She must be two, three hundred years old by now."

"Yes." Years meant nothing. "But who *is* she?"

"Oh—she runs a lot of things."

"This is a farewell party, my dear," she said.

"So soon?"

"Sixty years—hasn't it been?"

"Kedre, Kedre—sometimes I wish our lives weren't so long."

She smiled at him. "Then we'd never have met. We immortals gravitate to the same level — so we *do* meet."

Old Zachariah Harker reached for her hand. Beneath their terrace the Keep glittered with carnival.

"It's always new," he said.

"It wouldn't be, though, if we'd stayed together that first time. Imagine being bound together indissolubly for hundreds of years!"

Zachariah gave her a shrewd, questioning stare.

"A matter of proportion, probably," he said. "Immortals shouldn't live in the Keeps. The restrictions . . . the older you grow, the more you've got to expand."

"Well—I am expanding."

"Limited by the Keeps. The young men and the short-lived ones don't see the walls around them. We old ones do. We need more room. Kedre, I'm growing afraid. We're reaching our limits."

"Are we?"

"Coming close to them — we Immortals. I'm afraid of intellectual death. What's the use of longevity if you're not able to use your skills and powers as you gain them? We're beginning to turn inward."

"Well — what then? Interplanetary?"

"Outposts, perhaps. But on Mars we'd need Keeps, too. And on most of the other planets. I'm thinking of interstellar."

"It's impossible."

"It was impossible when man came to Venus. It's theoretically possible now, Kedre. But not practically so. There's no . . . no symbolic launching-platform. No interstellar ship could be built or launched from an undersea Keep. I'm speaking symbolically."

"My dear," she said, "we have all the time in the world. We'll discuss this again in . . . oh, fifty years, perhaps."

"And I won't see you till then?"

"Of course you'll see me, Zachariah. But no more than that. It's time we took our vacation. Then, when we come together again—"

She rose. They kissed. That, too, was symbolic. Both of them felt the ardor fading into gray ash—and, because they were in love, they were wise enough and patient enough to wait till the fire could be rekindled again.

So far the plan had been successful.

After fifty years had passed they would be lovers again.

Sam Harker stared at the gaunt gray-faced man moving purposefully through the throng. He was wearing cheerful celoflex too, but nothing could disguise the fact that he was not a Keep man. He had been sunburned once, so deeply that centuries undersea had not bleached him of that deep tan. His mouth was set in a habitual sneering grin.

"Who's that?"

"What? Where? Oh, I don't know. Don't bother me."

He hated the compromise that had made him don celoflex. But his old uniform would have been far too conspicuous. Cold, cruel-mouthed, suffering, he let the Way carry him past the enormous globe of the Earth, draped in a black plastic pall, that served in every Keep as a reminder of mankind's greatest achievement. He went to a walled garden and handed in an identification disk at a barred window. Presently he was admitted to the temple.

So this was the Temple of Truth!

It was impressive. He had respect for technicians — logistics, logicians . . . not logistics, that was behind him now. A priest took him into an inner chamber and showed him a chair.

"You're Robin Hale?"

"Right."

"Well—you've collated and given us all the data we need. But there must be a few clarifying questions. The Logician will ask them himself."

He went away. Downstairs, in the hydroponic gardens, a tall, thin, bony-faced man was pottering about cheerfull.

"The Logician is needed. Robin Hale's waiting."

"Ah, rats," said the tall, thin man, setting down a spray and scratching his long jaw. "Nothing I can tell the poor fella. He's sunk."

"Sir!"

"Take it easy. I'll talk to him. Go away and relax. Got his papers ready?"

"Yes, sir."

"O.K. I'll be along. Don't rush me." Muttering, the Logician shambled toward a lift. Presently he was in the control room, watching, through a visor, the gaunt sunburned man sitting uncomfortably on his chair.

"Robin Hale," he said, in a new, deeper voice.

Hale automatically stiffened. "Yes."

"You are an Immortal. That means you have a life-expectancy of up to seven hundred years. But you have no job. Is that right?"

"That's right."

"What happened to your job?"

"What happened to the Free Companies?"

. . . They died. They passed, when the Keeps unified under one governernment, and the token wars between them became unnecessary. In those days, the Free Companions had been the warriors, hired mercenaries paid to fight battles the Keeps dared not fight themselves, for fear of perishing.

The Logician said, "Not many Free Companions were Immortals. It's been a long time since there was a Free Company. You've outlived your job, Hale."

"I know."

"Do you want me to find a job for you?"

"I can't," Hale said bitterly. "I can't find one, and I can't face the prospect of hundreds of years—doing nothing. Just enjoying myself. I'm not a hedonist."

"I can tell you what to do very easily," the Logician said. "Die."

There was silence.

The Logician went on: "I can't tell you how to do it quite so easily. You're a fighter. You'll want to die fighting for your life. And, preferably, fighting for something you believe." He paused. When he spoke again, his voice had changed.

"Wait a minute," he said. "I'm coming out there. Hang on."

And a moment later his thin, tall form shambled from behind a curtain in the wall. Hale jumped to his feet, staring at the scarecrow figure confronting him. The Logician waved him back to his seat.

"Lucky I'm the boss," he said. "Those priests of mine wouldn't stand for this if they had a thing to say about it. But what could they do without me? *I'm* the Logician. Sit down." He pulled up a seat opposite, took an odd-looking object from his pocket — it was a pipe — and stuffed it with tobacco.

"Grow it and cure it myself," he said. "Look, Hale. This phony stuff is O.K. for the Keeps, but I don't see the point of handing you a line."

Hale was staring. "But . . . the Temple . . . this is the Temple of Truth? You mean it's all—"

"Phony? Nope. It's on the level. Trouble is, the truth don't always

come out dignified. Those old statues of Truth—naked, she was. Well, she had the figger for it. But look at me, now. I'd be a sight. There was a time when we played it straight; it didn't work. People just thought I was giving an opinion. Fair enough; I look like an ordinary guy. But I'm not. I'm a trick mutant. Come full circle. We went around through Plato and Aristotle and Bacon and Korzybski and the truth-machines — and end up right where we started, the best method in the world to use logic on human problems. I know the answers. The right ones."

Hale found it difficult to understand. "But . . . you can't be infallible . . . don't you use any system?"

"Tried the systems," the Logician said. "Lots of four-bit words. Boils down to one thing. Horse sense."

Hale blinked.

The Logician kindled his pipe. "I'm over a thousand years old," he said. "Kind of hard to believe, I know. But I told you I was a trick mutant. Son, I was born on Earth. I can remember the atomic wars.

Not the first ones—that was how I come to be born, my parents got in the way of some secondary radiations. I'm about as close to a real Immortal as they come. But my main talent — do you remember reading about Ben the Prophet. No? Well, he was only one of a lot of prophets, in those days. Plenty of people guessed what was coming. Didn't take much logic. I was Ben the Prophet. Lucky some of the right people listened and started colonizing Venus. I came along. Time the Earth blew up, I was right here being studied. Some technicians found out my brain was a little queer. There was a new sense in it, instinct, or whatever — nobody's ever found out exactly what it is. But it's the same thing that made the thinking-machines give the right answers—when they did! Brother, I just can't help giving the right answers!"

"You're a thousand years old?" Hale asked, fastening on the single point.

"Nigh. I've seen 'em come and go. I've seen how I could get to rule the whole roost, if I wanted to. But preserve me from that! I can see most of the answers to that, and I don't like any of 'em. I just sit here in the Temple of Truth and answer questions."

Hale said blankly, "We've always thought . . . there was a machine—"

"Sure, I know. Funny people will believe what a machine tells 'em, where they won't believe a fella like themselves. Or maybe it isn't funny at all. Look, son — no matter how you cut it, I know the answers. I turn over the information in my head, and pretty soon I see what they add up to. Common sense is all. Only requirement is that I've got to know all about you and your problem."

"Then you can read the future."

"Too many variables," the Logician said. "By the way, I hope you won't shoot off your mouth about me. The priests won't like it. Every time I show myself to some client and come off my high horse, they raise the temple roof. Not that it matters. You can talk if you want; nobody'd believe the infallible oracle's anything but a super-machine." He grinned cheerfully. "Main thing is, son, I got an idea. I told you I add up the numbers and get the answer. Well, sometimes I get more than one answer. Why don't you go landside?"

"What?"

"Why not?" the Logician said. "You're pretty tough. Course you may get killed. Probably will, I'll say. But you'll go down fighting. Not much fighting you can do in the Keeps, for anything you believe in. There's some other people feel the way you do. A few Free Companions, I think—Immortals too. Look them up. Go landside."

Hale said, "It's impossible."

"The Companies had their forts, didn't they?"

"It took gangs of technicians to keep the jungle out. And the animals. We had to keep waging a continual war against landside. Besides, the forts — there isn't much left of them now."

"Pick one out and rebuild it."

"But—then what?"

"Maybe you can be top man," the

Logician said quietly. "Maybe you can get to be top man — on Venus."

The silence drew on and on. Hale's face changed.

"Good enough," the Logician said, getting up. He put out his hand. "My name's Ben Crowell, by the way. Come see me if you run into trouble. Or I might even drop in to see you. If I do, don't let on I'm the great brain." He winked.

He shambled out, sucking at his pipe.

Life in the Keeps was very much like a game of chess. In the barnyard, among fowls, social precedence is measured by length of tenancy. Extension in time is wealth. Pawns have a low life-expectancy; knights and bishops and castles have more. Socially, there was a three-dimensional democracy and a temporal autocracy. There was a reason why the long-lived Biblical patriarchs achieved power. They could hold power.

In the Keeps, the Immortals simply knew more than the non-Immortals. Psychologically a curious displacement became evident. Immortals weren't worshiped as gods in those practical days, but there was definite displacement. Parents have one faculty a child cannot have: maturity. The plus factor. Experience. *Age.*

So there was displacement. Unconsciously the short-lived peoples of the Keeps began to look with dependence upon the Immortals. They knew more, of course. And, too, they were older.

Let George do it.

Besides, it is a regrettably human trait to disclaim unpleasant responsibilities. For centuries the trend had been away from individualism. Social responsibility had been carried to the point where everyone, theoretically, was his brother's keeper.

Eventually they all formed a circle and collapsed gracefully into one another's arms.

The Immortals, who knew what long, empty centuries were ahead of them, took pains to insure that those centuries would not be so empty. They learned. They studied. They had plenty of time.

As they gained in knowledge and experience, they began to take the responsibilities easily delegated to them by the collapsing multitudes.

It was a stable enough culture— for a moribund race.

He was always getting into mischief.

Anything new was fascinating to him. The Harker chromosomes took care of that. His name, though, was Sam Reed.

He kept fighting the invisible bars that he knew prisoned him. There were fourscore and ten of them. Something in his mind, something illogical and inherited, kept rebelling, seeking expression. *What can you do in ninety years?*

Once he tried to get a job in the great hydroponic gardens. His blunt, coarse face, his bald head, his precocious mind — these made it possible for him to lie convincingly about his age. He managed it for a while, till his curiosity got the better of him, and he began experimenting with botanical forced cultures. Since he

knew nothing about it, he spoiled a good-sized crop.

Before that, though, he had discovered a blue flower in one of the tanks, and it reminded him of the woman he had seen at carnival. Her gown had been exactly the same color. He asked one of the attendants about it.

"Blasted weeds," the man said. "Can't keep 'em out of the tanks. Hundreds of years, and they still show up. We don't have much trouble with these, though. It's the crab grass that's worst." He pulled up the weed and tossed it aside. Sam rescued it and asked more questions later. It was, he learned, a violet. The unobtrusive, pretty little plant was a far cry from the glamorous hybrid flowers grown in other sections of Hydroponics. He kept it till it broke into dust. He kept its memory after that, as he kept the memory of the woman in the violet-blue gown.

One day he ran away to Canada Keep, far across the Sea of Shallows. He had never been outside a Keep before, and was fascinated as the great, transparent globe drove upward through the bubbling water. He went with a man whom he had bribed—with stolen money—to pretend to be his father. But after he reached Canada Keep he never saw the man again.

He was ingenious at twelve. He worked out various ways to earn a living. But none satisfied him. They were all too dull. Blaze Harker had known what he was doing when he had left the boy's mind untouched in a stunted, warped body.

It was warped only by the aesthetic standards of the time. The long-limbed, tall Immortals had set the standard of beauty. There came to be a stigma of ugliness attached to the stocky, blunt-featured, thick-boned short-lived ones.

There was a tough, violent seed of unfulfillment within Sam. It drove him. It couldn't develop normally, for it was seed of the Immortals, and he obviously was no Immortal. He simply could not qualify for work that might take training of a hundred years or more. Even fifty years training—!

He did it the hard way, and the inevitable way. He got his mentor, his Chiron-Fagin, after he met the Slider.

The Slider was a fat, wicked old man without any name. He had bushy white hair, a carbuncled red nose, and a philosophy of his own. He never proffered advice, but he gave it when it was asked.

"People want fun," he told the boy. "Most of 'em. And they don't want to look at a thing that hurts their tender feelings. Use your head, kid. Thieving's out. Best to make yourself useful to people who've got power. Now you take Jim Sheffield's gang. Jim caters to the right people. Don't ask questions; do what you're told—but first get the right connections."

He sniffled and blinked his watery eyes at Sam.

"I spoke to Jim about you. Go see him. Here's the place." He thrust a plastic disk at the boy. "I wouldn't of got you out of that

scrape if I hadn't seen something in you. Go see Jim."

He stopped Sam at the door.

"You'll get along. Likewise, you won't forget old Slider, eh? Some people have. I can make trouble as easy as I can do favors."

Sam left the fat, malignant old man sniffling and chuckling.

He went to see Jim Sheffield. He was fourteen then, strong, short, scowling. He found Sheffield stronger and larger. Sheffield was seventeen, a graduate of the Slider's twisted school, an independent, shrewd businessman whose gang was already becoming known. The human factor was vital for Keep intrigue. It wasn't merely politics; the mores of the era were as punctilious and complicated as the social life of Machiavelli's Italy. The straight thrust of the knife was not only illegal but in poor taste. Intrigue was the thing. In the continually shifting balance of power, the man who could outwit an opponent, wind him in webs of his own spinning, and force him to ruin himself—that was the game.

Sheffield's gang free-lanced. Sam Reed's — he didn't know the name Harker except to identify it with one of the great Families of his old Keep —first job was to go undersea, with one more experienced companion, and collect some specimens of bluish algae, illegal within the Keeps. When he got back through the secret lock, he was surprised to find the Slider waiting, with a portable ray-mechanism already set up. The little room had been sealed off.

The Slider was wearing protective armor. His voice came through a diaphragm.

"Stay right there, boys. Catch this." He tossed a spray-gun to Sam. "Now spray that plastibulb. It's sealed, isn't it? Right. Spray it all over—fine. Now turn around slowly."

"Wait a minute—" said the other boy.

The Slider sniffled. "Do what I tell you or I'll break your skinny neck," he said conversationally. "Raise your arms. Turn slowly, while I use the ray on you . . . that's it."

Afterward, the three of them met Jim Sheffield. Jim was subdued but angry. He tried to argue with the Slider.

The Slider sniffled and rumpled his white hair.

"You shut up," he said. "Too big for your boots, you're getting to be. If you'd remember to ask me when you get into something new, you'd save yourself trouble." He tapped the black-painted globe Sam had set on the table. "This algae — know why it's forbidden in the Keeps? Didn't your patron tell you to be careful when he commissioned you to get the stuff?"

Sheffield's broad mouth twisted. "I was careful!"

"The stuff's safe to handle under lab conditions," the Slider said. "Only then. It's a metal-eater. Dissolves metal. Once it's been treated with the right reagents, it's innocuous. But raw like this, it could get loose and cause a lot of trouble here —and it'd be traced back to you, and you'd land in Therapy. See? If you'd come to me first, I'd have told you to have this ultraviolet set up,

to burn the daylights out of any algae the boys might bring in stuck to their suits. Next time I won't be so easy on you. *I* don't want to go to Therapy, Jim."

The old man looked innocuous enough, but Sheffield's rebellious stare wavered and fell. With a word of agreement he rose, picked up the globe and went out, beckoning to the other boys. Sam waited for a moment.

The Slider winked at him.

"You make a lot of mistakes when you don't get advice, kid," he said.

These were only episodes among many like them along the course of his outward life. Inwardly too he was precocious, amoral, rebellious. Above all, rebellious. He rebelled against the shortness of life, that made learning seem futile to him when he thought of the Immortals. He rebelled against his own body, thick and stocky and plebeian. He rebelled obscurely, and without knowing the reasons himself, against all that he had irrevocably become in that first week of his life.

There have always been angry men in the world. Sometimes the anger, like Elijah's, is the fire of God and the man lives in history as a saint and a reformer whose anger moved mountains to improve the lot of mankind. Sometimes the anger is destructive, and great war-leaders rise to devastate whole nations. Angers like that find outward expression and need not consume their hosts.

But Sam Reed's anger was a rage against intangibles like time and destiny, and the only target it could find to explode against was himself. Granted that such anger is not normal in a man. But Sam Reed was not normal. His father before him could not have been normal, or he would never have taken such disproportionate vengeance on his son. A flaw somewhere in the Harker blood was responsible for the bitter rage in which father and son alike lived out their days, far separate, raging against far different things, but in armed rebellion all their lives, both of them, against life itself.

Sam went through many inward phases that would have astonished the Slider and Jim Sheffield and the others with whom he worked in those days. Because his mind was more complex than theirs, he was able to live on many more levels than they, and able to conceal it. From the day he first discovered the great libraries of the Keeps he became a passionate reader. He was never an intellectual man, and the unrest in him prevented him from ever mastering any one field of knowledge and so rising above his station by the one superiority he possessed—his mind.

But he devoured books as fire devours fuel, as his own discontent devoured himself. He raced through whole courses of reading on any subject that caught his quick, glancing fancy, and emerged with knowledge of that subject stored uselessly away in a chamber of the uselessly capacious brain. Sometimes the knowledge helped him to promote a fraud or consummate a murder. More often it simply lay dormant in the mind that had been meant for the storage of five hundred years' ex-

perience, and was doomed to extinction in less than a century.

One great trouble with Sam Reed was that he didn't know what really ailed him. He had long struggles with his own conscience, in which he tried to rationalize his mind out of its own unconscious knowledge of its lost heritage. For a time he hoped to find among books some answer . . .

In those early days he sought and found in them the respite of escapism which he later tried in so many other forms — drugs among them, a few women, much restless shifting from Keep to Keep—until he came at last to the one great, impossible task which was to resolve his destiny and which he faced with such violent reluctance.

For the next decade and a half he read, quietly and rapidly, through the libraries of whichever Keep he found himself in, as a smooth undercurrent to whatever illicit affair he might currently be involved with. His profound contempt for the people he victimized, directly or indirectly, was one with the contempt he felt for his associates. Sam Reed was not in any sense a nice man.

Even to himself he was unpredictable. He was the victim of his own banked fire of self-hatred, and when that fire burst forth, Sam Reed's lawlessness took very direct forms. His reputation became tricky. No one trusted him very far—how could they, when he didn't even trust himself? — but his hand and his mind were so expert that his services were in considerable demand among those willing to take the chance that their careful plans might blow up in bloody murder if Sam Reed's temper got the better of him. Many were willing. Many found him rather fascinating.

For life in the Keeps had leveled off to an evenness which is not native to the minds of man. In many, many people something like an unrecognized flicker of the rebellion which consumed Sam Reed burned restlessly, coming to the surface in odd ways. Psychological projective screens took strange forms, such as the wave of bloodthirsty ballads which was sweeping the Keeps on a high tide of popularity when Sam was in his formative years. Less strange, but as indicative, was the fad for near-worship of the old Free-Companion days, the good old days of man's last romantic period.

Deep in human minds lies the insistence that war is glamorous, although it never can have been except to a select few, and for nearly a thousand years now had been wholly terrible. Still the tradition clung on —perhaps because terror itself is perversely fascinating, though most of us have to translate it into other terms before we can admire it.

The Free Companions, who had been serious, hard-working men operating a warfare machine, became swaggering heroes in the public fancy and many a man sighed nostalgically for a day he thought he had missed by a period of heartbreaking briefness.

They sang the wailing ballads the Free Companions had carried over, in changed forms, from the pioneer days on Venus, which in turn had

derived from the unimaginably different days on Old Earth. But they sang them with a difference now. Synthetic Free Companions in inaccurate costumes performed for swaying audiences that followed their every intonation without guessing how wrong they were.

The emphasis was off, in words and rhythm alike. For the Keeps were stagnant, and stagnant people do not know how to laugh. Their humor is subtle and devious, evoking the snigger rather than the guffaw. Slyness and innuendo was the basis of their oblique humor, not laughter.

For laughter is cruel and open. The hour was on its way when men would sing again the old bloodthirsty ballads as they were meant to be sung, and laugh again with the full-throated heartiness that comes from the need to laugh—at one's own misfortunes. To laugh because the only alternative is tears—and tears mean defeat. Only pioneers laugh in the primitive fullness of the sense. No one in the Keeps in those days had so much as heard real laughter in its cruelty and courage, except perhaps the very eldest among them, who remembered earlier days.

Sam Reed along with the rest accepted the Free Companions—extinct almost as Old Earth's dinosaurs, and for much the same reason—as the epitome of glamorous romance. But he understood the reasons behind that emotional acceptance, and could jeer at himself for doing it. It was not Free Companionship but free endeavor which, in the last analysis, enchanted them all.

They didn't want it, really. It would have terrified and repelled most of these people who so gracefully collapsed into the arms of anyone willing to offer them moral and mental support. But nostalgia is graceful too, and they indulged themselves in it to the full.

Sam read of the pioneer days on Venus wtih a sort of savage longing. A man could use all of himself against an adversary like the ravening planet the newcomers had fought. He read of Old Earth with a burning nostalgia for the wider horizons it had offered. He hummed the old songs over to himself and tried to imagine what a free sky must have looked like, terrifyingly studded with the visible worlds of space.

His trouble was that his world was a simple place, made intricate only artificially, for the sake of intricate intrigue, so that one couldn't hurl oneself wholeheartedly into conflict against a barrier — because the barrier was artificial and would collapse. You had to support it with one hand while you battered it with the other.

The only thing that could have offered Sam an opponent worthy of his efforts was time, the long, complex stretch of centuries which he knew he would never live. So he hated men, women, the world, himself. He fought them all indiscriminately and destructively for lack of an opponent he could engage with in a constructive fight.

He fought them for forty years.

One pattern held true through all that time, though he recognized it only dimly and without much interest. Blue was a color that could

touch him as nothing else could. He rationalized that, in part, by remembering the stories of Old Earth and a sky inconceivably colored blue.

Here water hemmed one in everywhere. The upper air was heavy with moisture, the clouds above it hung gravid with moisture and the gray seas which were a blanket above the Keeps seemed scarcely wetter than clouds and air. So the blueness of that lost sky was one in his mind with the thought of freedom . . .

But the first girl he took in free-marriage was a little dancer from one of the Way cafes, who had worn a scanty costume of blue feathers when he saw her first. She had blue eyes, not so blue as the feathers or the unforgotten skies of Earth, but blue. Sam rented a little apartment for them on a back street in Montana Keep, and for six months or so they bickered no more than most domestic couples.

One morning he came in from an all-night job with the Sheffield gang and smelled something strange the moment he pushed the door open. A heavy sweetness in the air, and a sharp, thick, already familiar acridness that not many Keep men would recognize these effete days.

The little dancer lay slumped against the far wall, already stiffening in her slump. Where her face had been was a great palely tinted blossom whose petals gripped like a many-fingered hand, plastering the flower tight against her skull. It had been a yellow flower, but the veins in the petals were bright red now, and more red ran down beneath the blossom over the girl's blue dress.

Beside her on the floor lay the florist's box, spilling green tissue, in which someone had sent her the flower.

Sam never knew who had done it, or why. It might have been some enemy of his, taking revenge for past indignities, it might even have been one of his friends—he suspected the Slider for awhile—afraid of the hold the girl was getting over him, to divert him from profitable business in the dark hours. Or it might have been one of the girl's dancing rivals, for the bitterest sort of struggle went on constantly among people of that profession for the too-few jobs that were open just now in Montana Keep.

Sam made inquiries, found out what he wanted to know and exacted dispassionate justice from people who may or may not have been guilty. Sam was not very concerned with that. The girl had not been a particularly nice girl in any sense, any more than Sam was a nice man. She had been convenient, and she had blue eyes. It was his own reputation Sam was upholding when he did what he did about her murder.

After that other girls came and went. Sam exchanged the little backstreet apartment for a better one in a quieter neighborhood. Then he finished an exceptionally profitable job and forsook girl and apartment for almost elegant quarters high up in a tower looking out over the central Way. He found a pretty blue-eyed singer to share it with him.

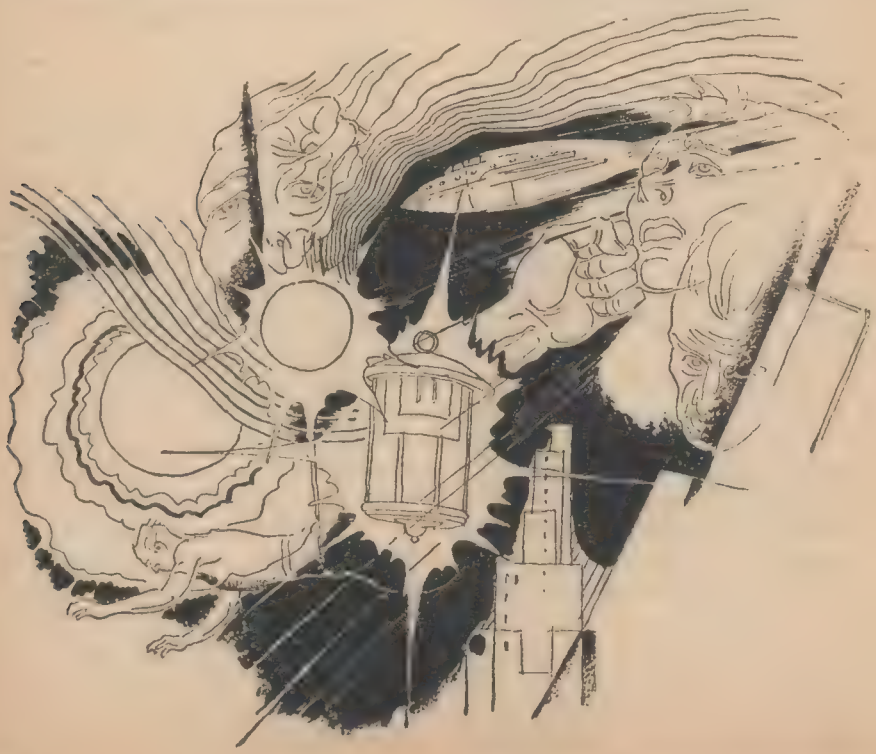
By the time our story opens he had three apartments in three Keeps, one quite expensive, one average,

and one deliberately chosen down among the port loading streets in the dimmest section of Virginia Keep. The occupants matched the apartments. Sam was an epicure in his own way. By now he could afford to be.

In the expensive apartment he had two rooms sacred to his privacy, stocked with a growing library of books and music, and an elaborate selection of liquors and drugs. This was not known among his business associates. He went here by another name and was generally supposed to be a commercial traveler from some unspecified but distant Keep. It was as close as Sam Reed could come to the life Sam Harker would have led by rights.

The Queen of Air and Darkness
Begins to shrill and cry,
O young man, O my slayer,
Tomorrow you shall die . . .

On the first day of the annual Carnival which ushered in the last year of Sam Reed's life, he sat across a small, turning table and spoke practically of love and money with a girl in pink velvet. It must have been near noon, for the light filtering down through the Sea of Shallows and the great dome of the Keep fell at its dim maximum upon them. But all



clocks were stopped for the three-day Carnival so that no one need worry about time.

To anyone not reared from childhood upon such phenomena as a merry-go-round cafe, the motion of the city around Sam would have been sickening. The whole room turned slowly to slow music within its transparent circular walls. The tables turned each upon its own axis, carrying a perimeter of chairs with it. Behind the girl's soft cloud of hair Sam could see all of the Keep spreading out and out below them and wheeling solemnly in parade past his unheeding vantage point.

A drift of colored perfume floated past them in a long, airy ribbon lifted and dropped by the air currents. Sam felt tiny spatters of scented moisture beading his face as the pink fog drifted past. He dispelled it with an impatient fanning of the hand and narrowed his eyes at the girl across from him.

"Well?" he said.

The girl smiled and bent her head over the tall, narrow, double-horned lyre, streaming with colored ribbons, which she embraced with one arm as she sat there. Her eyes were gentian blue, shadowed with lashes so heavy she seemed to look up at him through them from black eyes.

"I have another number in a minute," she said. "I'll tell you later."

"You'll tell me now," Sam declared, not harshly as he would have spoken to most other women, but firmly. The expensive apartment, high up at the exclusive peak of the Keep residential section, was vacant just now, and if Sam had his way this girl would be the next dweller there. Perhaps a permanent dweller. He was aware of an uneasy stir in his mind whenever he thought of Rosathe. He didn't like any woman to affect him this deeply.

Rosathe smiled at him. She had a small, soft mouth and a cloud of soft dark hair cut short and haloed all over her head like a dark mist. There was unexpected humor in her face sometimes, a rather disconcerting intelligence behind the gentian eyes, and she sang in a voice like the pink velvet of her gown, a small soft plaintive voice that brushed the nerves with pleasant tremors.

Sam was afraid of her. But being Sam Reed, he was reaching for this particular nettle. He dealt with danger by confronting it, and if there was any way of getting this velvety creature out of his mind, it would be through surfeit, not by trying to forget her. He proposed to surfeit himself, if he could, as soon as possible.

Rosathe plucked one string of the lyre with a thoughtful forefinger. She said, "I heard something interesting on the grapevine this morning. Jim Sheffield doesn't like you any more. Is it true, Sam?"

Sam said without heat. "I asked you a question."

"I asked you one."

"All right, it's true. I'll leave you a year's income in my will if Jim gets me first—is that what you're after?"

She flushed and twanged the string so that it disappeared in violent vibration. "I could slap you, Sam Reed. You know I can earn my own money."

He sighed. She could, which made it rather more difficult to argue with her. Rosathe was a more than popular singer. If she came to him it wouldn't be for the money involved. That was another thing that made her dangerous to his peace of mind.

The slow music which had been matching the room's slow turns paused. Then a stronger beat rang through the air, making all the perfume drifts shiver. Rosathe stood up, hoisting the tall, narrow lyre against her hip.

"That's me," she said. "I'll think it over, Sam. Give me a few days. I might be very bad for you."

"I know you'll be bad for me. Go sing your song. I'll see you after Carnival, but not for an answer. I know the answer. You'll come."

She laughed and walked away from him, sweeping her hand across the strings and humming her song as she went. Sam sat there watching, seeing heads turn and faces light up in anticipation.

But before her song was finished, he got up and went out of the turning room, hearing behind him the velvety little voice diminishing in plaintive lament for a fabled Genevieve. Every note was delicately true as she slid up and down the difficult flats which gave the old, old song its minor wailing.

"Oh Genevieve, sweet Genevieve, the days may come, the days may go. . . ." wailed Rosathe, watching Sam's broad red-velvet back out of the room. When she had finished the song she went quickly to her dressing room and flipped the switch of the communicator, giving Sheffield's call-signal.

"Listen, Jim," she said rapidly when his dark, scowling face swam into the screen. "I was just talking to Sam, and . . ."

If Sam could have listened, he probably would have killed her then, instead of much later. But, of course, he didn't hear. At the moment the conversation began, he was walking into an important coincidence which was a turning point in his life.

The coincidence was another woman in blue. Sauntering down the moving Way, she lifted an arm and threw the corner of her filmy blue robe over her hair like a veil. The motion and the color caught Sam's eye, and he stopped so suddenly that men on both sides jolted into him, and one turned with a growl, ready to make a quarrel out of it. Then he got a better glimpse of the granite face, long-jawed, with lines of strain etched from nose to mouth, and for no clear reason turned away, giving up the idea.

Because the image of Rosathe was still vivid in his mind, Sam looked at the woman with less enthusiasm than he might have shown a few days earlier. But deep in his mind buried memories stirred and he stood motionless, staring. The breeze of the sliding Way rippled the veil above her face so that shadows moved in her eyes, blue shadows from the blue veil in the heavily shadowed blue of her eyes. She was very beautiful.

Sam brushed aside a haze of pink carnival perfume, hesitated—which was not normal to him—and then

hitched his gilded belt with a gesture of decision and went forward with the long motion of a stride, but his feet falling softly, as was his habit. He didn't know why the woman's face and her violet-blue robe disturbed him. He had forgotten a great deal since the long-ago Carnival when he saw her last.

At Carnival there are no social barriers—in theory. Sam would have spoken anyhow. He came up below her on the sliding street and looked unsmilingly into her face. On a level she would have been taller than he. She was very slender, very elegant, with a look of graceful weariness much cultivated in the Keep. Sam could not know that it was she who had set the style, or that with her weariness and grace were native, not assumed.

The blue robe was wrapped tight over a tighter sheath of flexible gold that gleamed through the filmy blue. Her hair was an extravagant cascade of blue-black ringlets drawn back from her lovely, narrow face and gathered through a broad gold ring at the crown of her head, so that they fell free from the band in a rich cascade to her waist.

With deliberate barbarism her ears had been pierced, and she wore a hooped gold bell through each lobe. It was part of the current fad that aped the vitality of barbarism. Next season might see a gold ring through the nose, and this woman would wear one with the same air of elegant disdain she turned now upon Sam Reed.

He ignored it. He said in a voice of flat command, "You can come with me now," and he held out his crooked arm shoulder-high before him, in invitation.

She tilted her head back slightly and looked at him down her narrow nose. She may have been smiling. It was impossible to tell, because she had the same full, delicately curved mouth so many Egyptian portrait heads once had, with the smile implicit in the contour of the lips. If she did smile, it was in disdain. The heavy waterfall of her ringlets seemed to pull her head farther back on the delicate slender neck, so that she looked down on Sam partly in weariness, partly in scorn, partly in sheer contempt for him as he was.

She stood for a prolonged moment, looking at him down her nose, so still the bells in her pierced ears did not jingle.

For Sam, at first glance merely a squat plebeian like the rest of the lower classes, at second glance offered many contrasts to the discerning eye. He had lived nearly forty years now with his all-devouring anger; if he had come to terms with it, it consumed him inwardly all the same. The marks of that violence were on his face, so that even in repose he looked like a man straining against heavy odds. It gave a thrust and drive to his features which went far toward redeeming their heaviness.

The fact that he had no hair was another curious thing. Baldness was ordinary enough, but this man was so completely hairless that he did not seem bald at all. His bare

skull had a classical quality, and hair would look anachronistic now upon the well-shaped curve of his head. Much harm had been done the infant of forty years past but in some haste and with some carelessness, because of the Happy-Cloak, so that things remained like the well-shaped ears set close against a well-shaped skull, and the good lines of the jaw and neck, which were Harker lines in essence, though well disguised.

The thick neck was no Harker neck, vanishing into a gaudy crimson shirt. No Harker would have dressed even for Carnival in crimson velvet from head to foot, with a gilded belt supporting a gilded holster. And yet, if a Harker had put this costume on—somehow, subtly, this is the way a Harker would have looked in it.

Thick-bodied, barrel-chested, rolling a little with a wide stride when he walked, nevertheless there was in Sam Reed a full tide of Harker blood that showed in subtle ways about him. No one could have said why or how, but he wore his clothes with an air and moved with an assurance that was almost elegance in spite of the squatness which the upper classes so scorned.

The velvet sleeve fell back from his proffered arm. He stood there steady, holding the crooked forearm out, looking up over it at the woman with his eyes narrowed, steel-color in his ruddy face.

After a moment, moved by no impulse she could name, the woman let her lips tuck in at the corners in an acknowledged smile, disdainful, condescending. She moved one shoulder to shrug her robe aside and stretched out a slender arm and a very slender, small-boned hand with plain, thick gold bands pushed down well at the base of every finger. Very delicately she laid the hand on Sam Reed's arm and stepped down beside him. On that thick forearm, hazed with red hair, the muscles interlacing in a hard column toward the wrist, her hand looked waxen and unreal. She felt the muscles tighten beneath her touch, and her smile grew even more condescending.

Sam said, "Your hair wasn't black the last time I saw you at Carnival."

She gave him an aloof glance down her delicate thin nose. She did not yet trouble herself to speak. Sam looked at her unsmilingly, inspecting her feature by feature as if this were some portrait and not a breathing, disdainful woman who was here beside him only by a precarious whim.

"It was yellow," he said finally, with decision. The memory was clear now, wrenched out of the past in almost complete detail, so that he realized how vividly it must have impressed him at the time. "That was— thirty years ago. You wore blue on that day, too. I remember it very well."

The woman said disinterestedly, her head turned aside so that she seemed to be addressing someone at her other shoulder, "That would have been my daughter's daughter, I expect."

It jolted Sam. He was well aware of the long-lived aristocracy, of course. But he had never spoken directly to one before. To a man who counts in decades his own life and those of all his friends, the sudden impact of a life that spans centuries unimpaired must strike a disconcerting blow.

He laughed, a short bark of sound. The woman turned her head and looked at him with faint interest, because she had never before heard one of these lower classes make quite such a sound as that, self-assured, indifferent, the laugh of a confident man who doesn't trouble himself with manners.

Many people before Kedre Walton had found Sam rather mysteriously fascinating. Few had Kedre's perception. She knew before very long exactly why. It was the same quality that she and the world of fashion groped for when they hung barbaric ornaments through the pierced flesh of their ears and sang the wailing, forthright ballads of bloodshed and slaughter which were only words to them—yet. A quality of vitality and virility which the world of man had lost, and hungered for obscurely, and would not accept when it was next offered them, if they could avoid the gift.

She looked at him scornfully, turned her head a little to let the black cascading curls caress her shoulders, and said coldly, "Your name?"

His red brows met above his nose. "You don't need to know," he told her with deliberate rudeness.

For an instant she froze. Then, slowly, an almost imperceptible warming seemed to flow down her limbs, relaxing everything about her, muscles, nerves, even the chill of her aloofness. She drew a deep, silent breath and the ringed fingers which had only touched his arm until now moved deliberately, opened out so that her palm lay against his forearm. She let the palm slide gently forward toward the thickly tapered wrist, her rings cold and catching a little in the heavy red hair that thatched his arm.

She said without looking at him, "You may tell me about yourself—until you bore me."

"Are you easily bored?"

"Very easily."

He looked her up and down, liking what he saw, and he thought he understood it. In forty years Sam Reed had gained an immense store of casual knowledge about the Keeps—not only the ordinary life that anyone could see, but the devious, secret methods a race uses to whip its lagging interest in living when life has gone on longer than humans can easily adjust to. He thought he could hold her interest.

"Come along," he said.

That was the first day of Carnival. On the third and last day, Sam got his first intimation from her that this casual liaison might not come to an end with the festival. It rather surprised him, and he was not pleased. For one thing, there was Rosathe. And for another

—well, Sam Reed was locked in the confines of one prison he could never escape, but he would not submit to gyves within the confines of his cell.

Hanging without gravity in empty darkness, they were watching a three-dimensional image. This particular pleasure was expensive. It required skilled operators and at least one robot plane, equipped with special long-view lenses and televisor. Somewhere far above a continent on Venus the plane was hanging, focused on the scene it had tracked down.

A beast fought with a plant.

It was enormous, that beast, and magnificently equipped for fighting. But its great wet body was wetter now with the blood that ran from gashes opened all over it by the saber-thorned vines. They lashed out with calculating accuracy, flirting drops of venom that flashed in the wet gray air. Music, deftly improvised to fit the pulse of the battle, crashed around them.

Kedre touched a stud. The music softened to a whisper. Somewhere far above the plane hovered on ignored above the battle, the improviser fingered his keys unheard. Kedre, in the darkness, turned her head with a faint silken rustling of unseen hair, and said, "I made a mistake."

Sam was impatient. He had wanted to see the finish of the fight.

"What?" he demanded brusquely.

"You." Out of the darkness a finger brushed his cheek lightly, with casual possessiveness. "I underestimated you, Sam. Or overestimated. Or both."

He shook his head to evade the finger. He reached out in the dark, feeling his hand slip across a smooth, curved cheek and into the back-drawn hair. He found the ring through which the showering curls were drawn and seized a handful of ringlets, shaking her head roughly from side to side. The hair moved softly over his forearm.

"That's enough of that," he said. "I'm not your pet dog. What do you mean?"

She laughed. "If you weren't so *young*," she said insultingly.

He released her with such abruptness he unsteadied her on the divan beside him, and she laid a hand on his shoulder to catch herself. He was silent. Then in a remote voice he asked, "Just how old are you?"

"Two hundred and twenty years."

"And I bore you. I'm a child."

Her laughter was flattering. "Not a child, Sam—not a child! But our viewpoints are so different. No, you don't bore me. That's the trouble, or part of it. I wish you did. Then I could leave you tonight and forget all this had ever happened. But there's something about you, Sam—I don't know." Her voice grew reflective. Behind it in the darkness the music swelled to a screaming crescendo, but very softly, a muted death-note as one adversary or the other triumphed far up in the swamplands overhead.

"If you were the man you look," Kedre Walton was saying. "If you only were! You have a fine mind, Sam—it's a pity you must die too soon to use it. I wish you weren't one of the commons. I'd marry you—for awhile."

"How does it feel," Sam asked her savagely, "to be a god?"

"I'm sorry. That was patronizing, wasn't it? And you deserve better. How does it feel? Well, we *are* immortals, of a sort. We can't help that. It feels—good, and frightening. It's a responsibility. We do much more than just play, you know. I spent my first hundred years maturing and studying, traveling, learning people and things. Then for a hundred years it was intrigue I liked. Learning how to pull strings to make the Council see things my way, for instance. A sort of jujitsu of the mind—touch a man's vanity and make his ego react in just the way I mean it to. I think you know those tricks well enough yourself—only you'll never live long enough to master the art as I know it. It's a pity. There's something about you that I . . . I . . . never mind."

"Don't say again you'd marry me. I wouldn't have you."

"Oh yes you would. And I might try it, at that, even if you are a common. I might—"

Sam leaned forward across her knees and groped for the light switch. The small, cushioned room sprang into illumination as the switch clicked, and Kedre blinked her beautiful ageless eyes and laughed half in protest and half in surprise.

"Sam! I'm blind. Don't do that." She reached to extinguish the light. Sam caught her hand, folding the fingers together over their heavy golden rings.

"No. Listen. I'm leaving you right now and I never want to see you again. Understand? You've got nothing I want." He rose abruptly.

There was something almost serpentine in the way she moved to her feet in one smooth, swift flow, light glinting on the overlapping golden sequins that sheathed her.

"Wait. No, wait! Forget about all this, Sam. I want to show you something. That was just talk, before. I needed to sound you out. Sam, I want you to come with me to Haven. I have a problem for you."

He looked at her coldly, his eyes steel splinters between the ruddy lashes, under the rough, ruddy brows. He named the sum his listening would cost her. She curled her lip at him and said she would pay it, the subtle Egyptian smile denting in the corners of her mouth.

He followed her out of the room.

Haven approximated man's half-forgotten birthplace. It was Earth, but an Earth glamourized and inaccurately remembered. It was a gigantic half-dome honeycombed with cells that made a shell arched over a great public room below.

Each cell could be blocked off, or a rearrangement of penetrating rays could give you the illusion of being in the midst of an immense, crowded room. Or you could use the architect's original plan and enjoy the illusion of a terrestrial background.

True, palms and pines seemed to grow out of the same surrogate soil, grapes and roses and blossoming fruit trees shouldered one another; but since these were merely clever images they did not matter except to the purist. And only scholars really knew the difference. Seasons had become an exotic piece of history.

It was a strange and glamorous thought—the rhythmic equinoxes, earth's face changing from green and brown to glittering blue-white, and then the magic of pale green blades pushing up and green buds breaking from the trees, and all this naturally, inevitably, unlike the controlled growth of hydroponics.

Kedre Walton and Sam Reed came to Haven. From the stage where they entered they could look up at that immense, shining hemisphere, crowded with glittering cells like fragments of a bright, exploded dream, shifting and floating, rising and falling in the intricate light-currents. Down below, very far away, was the bar, a serpentine black shape where men and women made centipede-legs for its twisting body.

Kedre spoke into a microphone. One of the circling cells moved in its orbit and bumped gently against the landing stage. They stepped inside, and the swaying underfoot told Sam that they were afloat again.

Leaning among cushions by the low table were a man and a woman. Sam knew the man by sight. He was Zachariah Harker, oldest of one of the great Immortal families. He was a big man, long-boned, fine of line, his face a curious mixture of—not age—but experience, maturity, contrasting with the ageless youth that kept his features fresh and unlined. He had a smoothness that came from within, smooth assurance, smooth courtesy, smooth and quiet wisdom.

The woman—

"Sari, my dear," Kedre said. "I've brought you a guest. Sari is my granddaughter. Zachariah, this is . . . I don't know his name. He wouldn't tell me."

Sari Walton had the delicate, disdainful face that was apparently a family characteristic. Her hair was an improbable green-gold, falling with careful disorder loose over her bare shoulders. She wore a tight garment of the very fine fur of a landside beast, plucked down to the undercoat which was as short and thick as velvet and patterned with shadowy stripes like a tiger. Thin and flexible as cloth, it sheathed her tightly to the knees and lay in broad folds about her ankles.

The two Immortals looked up, surprise showing briefly on their faces. Sam was aware of a quick surge of resentment that they should be surprised. He felt suddenly clumsy, conscious of his thick

body and his utter unlikeness to these aristocrats. And he felt, too, his immaturity. As a child resents his elders, Sam resented the superior knowledge implicit upon these handsome, quiet features.

"Sit down." Kedre waved to the cushions. Stiffly Sam lowered himself, accepted a drink, sat watching the averted faces of his hosts with a hot resentment he did not try to hide. Why should he?

Kedre said, "I was thinking of the Free Companion when I brought him here. He . . . what *is* your name? Or shall I give you one?"

Sullenly Sam told her. She lay back among the cushions, the gold rings gleaming softly on her hand as she raised her drink. She looked at ease, gracefully comfortable, but there was a subtle tension in her that Sam could sense. He wondered if the others could.

"I'd better explain to you first, Sam Reed," she said, "that for twenty years now I've been in contemplation."

He knew what that meant—a sort of intellectual nunnery, a high religion of the mind, wherein the acolyte retires from the world in an attempt to find—well, what is indescribable when found. Nirvana? No—stasis, perhaps, peace, balance.

He knew somewhat more of the Immortals than they probably suspected. He realized, as well as a short-lived mortal could, how complete the life that will span up to a thousand years must be. The character must be very finely integrated, so that their lives become a sort of close and delicate mosaic, an enormous one, but made up of tiles the same size as those composing an ordinary life. You may live a thousand years, but one second is still exactly one second long at a time. And periods of contemplation were sometimes necessary to preserve balance.

"What about the Free Companion?" Sam demanded harshly. He knew. Robin Hale, last of the warriors, was very much in public interest just now. The deep discontent which was urging popular favor toward the primitive had caught up the Companion, draped him in synthetic glamour, and was eager to follow his project toward colonization of the landside.

Or they thought they were eager. So far most of the idea was still on paper. When it came to an actual struggle with the ravening fury that was continental Venus—well, realists suspected how different a matter that might turn out to be. But just now Robin Hale's crusade for colonization was enjoying a glowing, irrational boom.

"What about him?" Zachariah Harker asked. "It won't work. Do you think it could, Sam Reed?"

Sam gave him a red-browed scowl. He snorted and shook his head, deliberately not troubling to answer aloud. He was conscious of a rising desire to provoke discord among these smoothly civilized Immortals.

"When I came out of contemplation," Kedre said, "I found this Free Companion's project the most interesting thing that was happen-

ing. And one of the most dangerous. For many reasons, we feel that to attempt colonization now would be disastrous."

Sam grunted. "Why?"

Zachariah Harker leaned across the table to set down his drink. "We aren't ready yet," he said smoothly. "It will take careful planning, psychologically and technologically. And we're a declining race, Sam Reed. We can't afford to fail. This Free Companion project will fail. It must not be given the chance." He lifted his brows and regarded Sam thoughtfully.

Sam squirmed. He had an uncomfortable feeling that the deep, quiet gaze could read more upon his face than he wanted anyone to read. You couldn't tell about these people. They had lived too long. Perhaps they knew too much.

He said bluntly, "You want me to kill him?"

There was silence in the little room for a moment. Sam had an instant's impression that until he spoke they had not thought the thing through quite so far. He felt a swift rearrangement of ideas going on all about him, as if the Immortals were communicating with one another silently. People who have known each other for so many centuries would surely develop a mild ability at thought-reading, if only through the nuances of facial expression. Silently, then, the three Immortals seemed to exchange confidences above Sam's head.

Then Kedre said, "Yes. Yes, kill him if you can."

"It would be the best solution," Zachariah added slowly. "To do it now—today. Not later than forty-eight hours from now. The thing's growing too fast to wait. If we can stop him now, there's no one ready to step into his place as figurehead. Tomorrow, someone might. Can you handle it, Sam Reed?"

Sam scowled at them. "Are you all fools?" he demanded. "Or do you know more about me than I think?"

Kedre laughed. "We know. It's been three days, my dear. Do you think I let myself get this involved without knowing the man I was with? I had your name before evening of the first day. I knew your record by the next morning. It's quite safe to intrust a job like this to you. You can handle it and for a price you'll keep quiet."

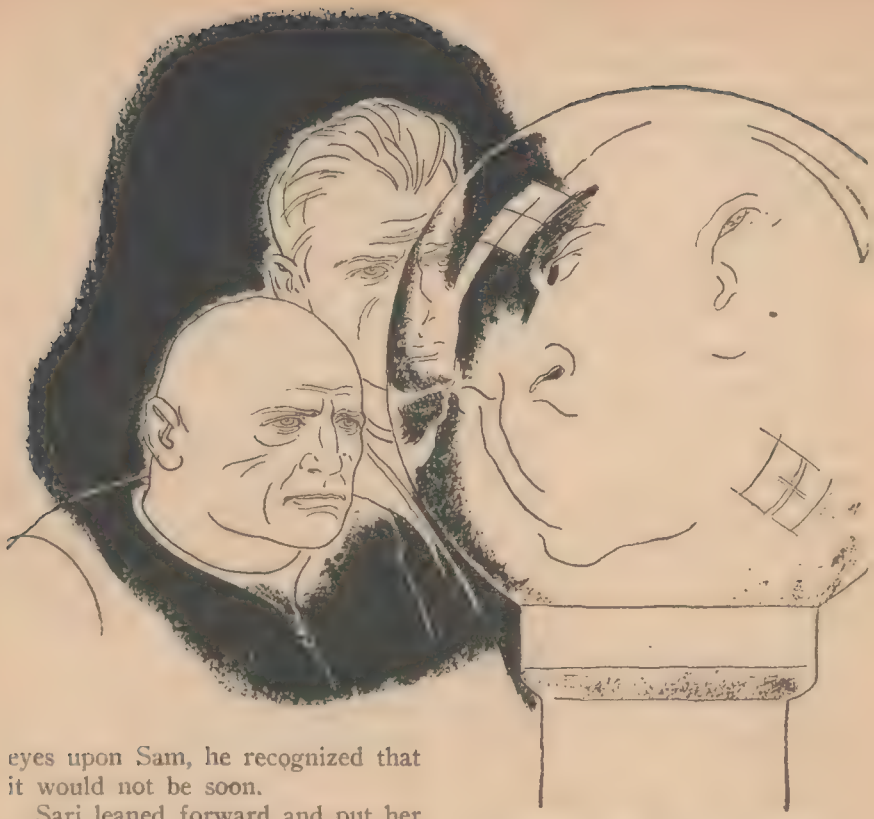
Sam flushed. He hated her consciously for the first time then. No man cares to be told he has been made a fool of.

"That," he said, "will cost you twice what it would cost anyone else in the Keep." He named a very high price.

Zachariah said, "No. We can get—"

"Please, Zachariah." Kedre lifted her hand. "I'll pay it. I have a reason."

He looked at her carefully. The reason was plain on her face, and for an instant Zachariah winced. He had hoped the free-marriage she had stepped out of when she went into contemplation might be resumed very soon now. Seeing her



eyes upon Sam, he recognized that it would not be soon.

Sari leaned forward and put her pale, narrow hand on his arm.

"Zachariah," she said, warning and possessiveness in her voice. "Let her have her way, my dear. There's time enough for everything."

Grandmother and granddaughter, almost mirror-images, exchanged a look in which Sam, who had missed nothing, thought he saw both rivalry and understanding.

Zachariah said, "Look over there." He moved his hand and the cell wall glowed into transparence. Floating a little distance off among the crowding cells was an inclosure in which a man sat alone.

"He's been here for two hours now," Zachariah went on.

The cell drifted nearer. The man in it was thin, dark, frowning. He wore a dull brown costume.

"I know him by sight," Sam said, and stood up. The floor rocked slightly at the motion. "Drop me at the landing stage. I'll take care of him for you."

At the long bar he found a vacant seat and ordered a drink. The bartender looked at him sharply. This was a rendezvous for the Im-

mortals and the upper classes; it was not often that a man as squatly plebeian as Sam Reed appeared at the bar. But there was something about Sam's scowl and the imperiousness of his order that after a moment made the bartender mutter "Yes, sir," rather sullenly and bring him his drink.

Sam sat there a long while. He ordered twice more and made the drinks last, while the great shell hummed and spun above him and the crowd filled the dome with music and a vast amorphous murmuring. He watched the floating cell with the brown figure inside drift aimlessly around the vast circle. He was waiting for the Immortal to descend, and he was thinking very fast.

Sam was frightened. It was dangerous to mix in the affairs of the Immortals even politically. To get emotionally involved was sheer suicide and Sam had no illusion about his chances for survival as soon as his usefulness was over. He had seen the look of mild speculation that Zachariah Harker turned on him.

When the Free Companion's cell drifted finally toward the landing stage, Sam Reed was there to meet it. He wasted no words.

"I've just been hired to kill you, Hale," he said.

They were leaving Haven together an hour later when the Sheffield gang caught up with Sam.

Sam Reed would never have come this far in his career if he hadn't been a glib and convincing talker when he had to be. Robin Hale had certainly been a target for glib promotioners often enough since his colonizing crusade began to know how to brush them off. But here again the Harker blood spoke silently to its kindred Immortality in Hale, and though Sam credited his own glibness, it was the air of quiet conviction carried by his subsurface heritage which convinced the Free Companion.

Sam talked very fast—in a leisurely way. He knew that his life and Hale's were bound together just now by a short rope—a rope perhaps forty-eight hours long. Within those limits both were safe. Beyond them, both would die unless something very, very clever occurred to them. Sam's voice as he explained this carried sincere conviction.

This was the point at which the Sheffield boys picked him up. The two came out of the Haven portal and stepped onto the slow-speed ribbon of a moving Way. Then a deliberate press of the crowd separated them a bit and Sam, turning to fight his way back, saw too late the black bulb in the hand that rose toward his face and smelled the sickening fragrance of an invisible dust too late to hold his breath.

Everything about him slowed and stopped.

A hand slipped through his arm. He was being urged along the Way. Globes and lanterns made patches of color along the street until it curved; there they coalesced into a blob of hypnotic color. The Way slid smoothly along and shining, perfumed mists curled in fog-banks

above it. But he saw it all in stopped motion. Dimly he knew that this was his own fault. He had let Kedre distract him; he had allowed himself to take on a new job before he finished an old one that required all his attention. He would pay now.

Then something like a whirlwind in slow motion struck across the moving belts of the Way. Sam was aware only of jostling and shouts and the thud of fists on flesh. He couldn't sort out the faces, though he saw the Free Companion's floating before him time and again in a sort of palimpsest superimposed upon other faces, dimly familiar, all of them shouting.

With a dreamlike smoothness he saw the other faces receding backward along the slower ramp while the lights slipped rapidly away at the edges of the highspeed Way and Robin Hale's hand gripped his arm.

He let the firmness of the hand guide him. He was moving, but not moving. His brain had ceased almost entirely to function. He knew only vaguely that they were mounting the ramp to one of the hydroponic rooms, that Hale was clinking coins into an attendant's hand, that now they had paused before a tank where a heavy, gray-green foliage clustered.

From far off Hale's voice murmured, "It usually grows on this stuff. Hope they haven't sprayed it too well, but it's hardy. It gets in everywhere. Here!" A sound of scraping fingernails, a glimpse of bluish lichen crushed between Hale's palms and dusted in Sam's face.

Then everything speeded up into sudden accelerated motion timed to Sam's violent sneezes. A stinging pain began in his sinuses and spread through his brain. It exploded there, rose to a crescendo, faded.

Sweating and shaking, he found he could talk again. Time and motion came back to normal and he blinked streaming eyes at Hale.

"All right?" the Free Companion asked.

"I—guess so." Sam wiped his eyes.

"What brought that on?" Hale inquired with interest.

"My own fault," Sam told him shortly. "Personal matter. I'll settle it later—if I live."

Hale laughed. "We'll go up to my place. I want to talk to you."

"They don't understand what they'll be facing," the Free Companion said grimly. "I can't seem to convince anyone of that. They've got a romantic vision of a crusade and not one in a thousand has ever even set foot on dry land."

"Convince me," Sam said.

"I saw the Logician," Hale began. "The crusade was his idea. I needed—something. This is it, and I'm afraid of it now. It's got out of hand. These people are emotional dead-beats. They're pawing me like so many dogs begging for romance. All I can offer them is personal hardship beyond anything they can even dream, and no hope of success for this generation or the next. That sort of

spirit seems to have bred out of the race since we've lived in Keeps. Maybe the underwater horizons are too narrow. They can't see beyond them, or their own noses." He grinned. "I offer not peace but a sword," he said. "And nobody will believe it."

"I've never been topside myself," Sam told him. "What's it like?"

"You've seen it in the projectors, relayed from planes *above* the jungles. So have most people. And that's the fallacy — seeing it from above. It looks pretty. I'd like to take a projector down into the mud and look up at all that stuff towering over and reaching down, and the mud-wolves erupting underfoot and the poison-vines lashing out. If I did, my whole crusade would fall flat and there'd be an end of the colonizing." He shrugged.

"I've made a start, you know, in the old fort," he said. "The Doonemen had it once. Now the jungle's got it back. The old walls and barriers are deactivated and useless. All that great technology is dead now. Whole rooms are solid blocks of vegetation, alive with vermin and snakes and poison plants. We're cleaning that out, but keeping it clean—well, that's going to take more than these people have got. Why, the lichens alone will eat through wood and glass and steel and flesh! And we don't know enough about the jungle. Here on Venus the ecology has no terrestrial parallel. And it won't be enough simply to hold the fort. It's got to be self-supporting."

"That'll take money and backing," Sam reminded him. "The Families are dead against it—now."

"I know. I think they're wrong So does the Logician."

"Are you working alone on this?"

Hale nodded. "So far I am."

"Why? A good promotion man could get you all the backing you need."

"No good promotion man would. It'd be a swindle. I believe in this, Reed. With me it *is* a crusade. I wouldn't trust a man who'd be willing to tackle it, knowing the truth."

A beautiful idea was beginning to take voluptuous shape in Sam's mind. He said, "Would you trust me?"

"Why should I?"

Sam thought back rapidly over how much of the truth he had already told Hale. Not too much. It was safe to go ahead. "Because I've already risked my neck to warn you," he said. "If I'd gone ahead with the job Harker gave me, I'd be collecting a small fortune right now. I didn't. I haven't told you why yet. I guess I don't need to. I feel the way you do about colonizing. I could make some money out of promoting it—I won't deny that. But nothing like the money I could make killing you."

"I've just told you the thing can't succeed," Hale pointed out. But there was a light in his eyes and more eagerness in his manner than Sam had yet seen.

"Hooked!" Sam thought. Aloud, he said, "Maybe not. All it needs is plenty of backing—and I mean plenty! I think I can provide that. And we've got to give the crusaders a

substitute goal for the real one, something they think they can collect on in their lifetime. Something they *can* collect on. No cheating. Shall I try?"

Hale pinched his chin thoughtfully. At last he said, "Come with me to the Logician."

Sam hedged. He was afraid of the Logician. His own motives were not the kind that could stand the light of clear reason. But Hale, essentially romanticist as he was, had several centuries of experience behind him to bolster up his apparent naivete. They argued for over an hour.

Then Sam went with him to see the Logician.

A globe spoke to them, a shining white globe on an iron pedestal. It said, "I told you I can't foretell the future, Hale."

"But you know the right answers."

"The right answer for you may not be the right one for Sam Reed."

Sam moved uneasily. "Then make it two answers," he said. He thought it was a machine speaking. He had let down his guard a trifle; machines weren't human. Willy-nilly, he had given the data it required. Now he waited uneasily, knowing the hours of his deadline were slipping away while Kedre and Harker waited for news of the Companion's death.

In the silver globe shadows swam, the distorted reflection of the Logician's long, sardonic face. Robin Hale could trace the likeness but he knew that to one who didn't know the secret the shadows would be meaningless.

"The Keep people aren't pioneers," the Logician said unnecessarily. "You need recruits from the reformatories."

"We need good men," Hale said.

"Criminals are good men, most of them. They're merely displaced socially or temporally. Any antisocial individual can be thoroughly prosocial in the right environment. Malcontents and criminals will be your best men. You'll want biologists, naturalists, geologists—"

"We'd have to pay tremendous sums to get even second-rate men," Sam objected.

"No you wouldn't. You'd have to pay — yes. But you'll be surprised how many top-flight men are malcontents. The Keeps are too circumscribed. No good worker is ever happy operating at less than full capacity, and who in the Keeps has ever used more than a fraction of his ability since the undersea was conquered?"

"You think we can go ahead then? Hale asked specifically.

"If you and Reed can get around this current danger—ask me again."

"Hale tells me," Sam put in, "that the Logician disagrees with the Families about colonization. Why won't you help us against the Families, then?"

The shadows moved in the globe; the Logician was shaking his head.

"I'm not omnipotent. The Families mean well—as they see it. They take a long view. By intrigue and influence they do sway the Council decisions, though the Council is perfectly free. But the Families sit back and decide policy, and then see that

their decisions are carried out. Nominally the councils and the governors run the Keeps. Actually the Immortals run them. They've got a good deal of social consciousness, but they're ruthless, too. The laws they promote may seem harsh, to the short-lived, but the grandchildren of the apparent victims may live to thank the Families for their harshness. From the Families' viewpoint common good covers a longer period of time. In this case I think they're wrong.

"The race is going downhill fast. The Families argue we can't finance but one colonizing effort. If it fails we're ruined. We'll never try again. We won't have the materials or the human drive. We've got to wait until they give the word, until they're convinced failure won't happen. I say they're wrong. I say the race is declining faster than they think. If we wait for their word, we'll have waited too long . . .

"But the Families run this planet. Not the Logician. I've opposed their opinions too often in other things for them to believe me now. They figure I'm against them in everything."

To Robin Hale it was an old story. He said impatiently when the voice paused, "Can you give us a prognosis, Logician? Is there enough evidence in now to tell us whether we've got a chance to succeed?"

The Logician said nothing for awhile. Then a curious sound came from the globe. It was a chuckle that grew to a laugh which startled Hale and uterly astonished Sam Reed. That a machine could laugh was inconceivable.

"Landside will be colonized," the Logician said, still chuckling. "You've got a chance—a good chance. And a better chance, my friend, if this man Reed is with you. That's all I can say, Hale. I think it's enough."

Sam froze, staring at the shadows swimming in the globe. All his preconceived ideas turned over in his head. Was the Logician after all a fraud? Was it offering them mere guesswork? And if it could be this wrong on the point of Sam's dependability, of what value was anything else it said?

"Thank you, Logician," the Free Companion was saying, and Sam turned to stare anew at Robin Hale. Why should he thank a machine, and especially as faulty a machine as this had just proved itself to be?

A deep chuckle sounded from the globe as they turned away. It rose again to laughter that followed them out of the hall, wave upon wave of full-throated laughter that had something of sympathy in it and much of irony.

The Logician was laughing from the bottom of his lungs, from the bottom of his thousand-years experience, at the future of Sam Reed.

"'If we can get around this current danger—'" Sam quoted the Logician. He was sitting beside a transparent plastic table, very dusty, looking at the Free Companion across it. This was a dim secret room the Slider owned. So long as they sat here they were safe, but they couldn't stay forever. Sam had a fair idea of how many of the Families' retain-

ers were reporting on his movements and Hale's.

"Any ideas?" Hale asked.

"You don't seem much worried. What's the matter? Don't you believe me?"

"Oh, yes. I'll admit I mightn't believe just any man who came up to me in a crowd and said he'd been hired to kill me. It's easy to say, if you're working up to a favor. But I've rather been expecting the Families to do something drastic, and—I trust the Logician. How about it—have you any ideas?"

Sam looked at him from under scowling red brows. He had begun to hate Hale for this easy acquiescence. He wanted it. He needed it. But he didn't like Hale's motive. Hale wasn't likely to intrust the success or failure of his crusade to the doubtful integrity of a promoter, which was the role Sam aspired to now. Even though the Logician—moved by flawed logic — had pronounced favorable judgment and even though Hale trusted the Logician implicitly, there was another motive.

Robin Hale was an Immortal.

The thing Sam had sensed and hated in the Waltons and Harker he sensed and hated in Hale, too. A tremendous and supreme self-confidence. He was not the slave of time; time served him. A man with centuries of experience behind him must already have encountered very nearly every combination of social circumstance he was likely to encounter. He had a pattern set for him. There would have been time enough to experiment, to think things over carefully and try out this reaction and that until the best treatment for a given set of circumstances would come automatically to mind.

It wasn't fair, Sam thought childishly. Problems that shorter-lived men never solved the infinitely resourceful Immortals must know backward and forward. And there was another unfairness — problems the ordinary man had to meet with drastic solutions or compromise Hale could meet simply by waiting. There was always, with the Immortals, that last, surest philosophy to fall back on: *This, too, will pass.*

The Immortals, then, were random factors. They had extensions in time that no non-Immortal could quite understand. You had to experience that long, long life in order to *know* . . .

Sam drew a deep breath and answered Hale's question, obliquely enough.

"The Families—I mean specifically the Waltons and Harkers — won't strike overtly. They don't want to be publicly connected with your death. They're not afraid of the masses, because the masses have never organized. There's never been any question of a revolt, for there's never been any motive for revolt. The Families are just. It's only with intangibles like this colonizing crusade that a question may come up, and—I hope—that may make it a dangerous question for them. Because for the first time the masses really are organized, in a loose sort of way — they're excited about the crusade." He squinted at Hale. "I've got an idea about how to use that, but—" Sam glanced at the dusty

televisor screen in the wall above them— "I can't explain it yet."

"All right." Hale sounded comfortable and unexcited. It was normal enough, Sam told himself, with a suddenly quickened pulse as he realized consciously for the first time that to this man warfare—that glamorous thing of the dead past—was a familiar story. He had seen slaughter and wreaked slaughter. The threat of death must by now be so old a tale to him that he faced it with unshaken nerves. Sam hated him anew.

"Meanwhile"—he forced himself to speak calmly—"I've got to sell myself to you on the crusading idea. Shall I talk awhile?"

Hale grinned and nodded.

"We've got the unique problem of fighting off converts, not recruiting them. We need key men and we need manpower. One's expendable. The other—you *can* protect your key men, can't you?"

"Against some dangers. Not against boredom. Not against a few things, like lichens—they can get into an air vent and eat a man alive. Some of the germs mutate under UV, instead of dying. Oh, it isn't adventure."

"So we'll need a screening process. Malcontents. Technical successes and personal failures."

"Up to a point, yes. What do you suggest?" The laconic voice filled Sam with unreasonable resentment. He had a suspicion that this man already knew most of the answers, that he was leading Sam on, like a reciting child, partly to test his knowledge, partly perhaps in the hope that Sam might have ideas to offer which Hale could twist to his own use. And yet—under the confidence, under the resourcefulness that all his experiences had bred, the man showed an unconquerable naivete which gave Sam hope. Basically Hale was a crusader. Basically he was selfless and visionary. A million years of experience, instead of a few hundred, would never give him something Sam had been born with. Yes, this was worth a try . . .

"Of course, not all the failures will do," he went on. "We've got to find the reasons *why* they're malcontents. You had technicians in the old days, when the wars were going on."

Hale nodded. "Yes. But they had the traditions of the Free Companions behind them."

"We'll start a new tradition. I don't know what. *Ad astra per aspera*, maybe." Sam considered. "Can you get access to the psych records and personal histories of those old technicians?"

"Some of them must have been saved. I think I can. Why?"

"This will come later, but I think it's our answer. Break down the factors that made them successful. The big integrators will do that. It'll give us the prime equation. Then break down the factors that make up the current crop of technicians—malcontents preferable. X equals a successful wartime technician, plus the equivalent of the old tradition. Find out who's got X today and give him the new tradition.

"It'll take careful propaganda and

semantic build-up. All we need is the right channeling of public opinion now. Catchwords, a banner, a new Peter the Hermit, maybe. The Crusades had a perfect publicity buildup. I've given you a solution for your technicians—now about the manpower and the financial backing." Sam glanced at the quiet Immortal face and looked away again. But he went on.

"We'll have to screen the volunteers for manpower, too. There are plenty of good men left in the human race. They won't all fold up at the first threat of danger. We'll set up a very rigid series of tests for every potential colonist. Phony them up if we have to. One set of answers for the public, another for us. You can't openly reject a man for potential cowardice, or the rest might not dare take the test. But we've got to know."

"So far—good," Hale said. "What about money?"

"How much have you got?"

Hale shrugged. "Pennies. I've got a foothold, cleaning out Doone Keep. But it'll take real money to keep the thing going.

"Form a company and sell stock. People will always gamble. Especially if they get dividends — and the dividends they want aren't merely money. Glamour. Excitement. The romance they've been starved for. The reason they go in for second-hand thrills."

"Will rejected volunteers buy stock?"

Sam laughed. "I've got it! Every share of stock will pay a dividend of thrills. All the excitement of volunteering with none of the danger. Every move the colony makes will be covered by televisor — with a direct beam to the receiver of every stockholder!"

Hale gave him a glance in which anger and admiration were mingled. Sam was aware of a little surge of gratification at having startled the man into something like approval. But Hale's next reaction spoiled it.

"No. That's cheap. And it's cheating. This is no Roman holiday for the thrill-hunters. And I've told you it's hard work, not romance. It isn't exciting, it's drudgery."

"It can be exciting," Sam assured him. "It'll have to be. You've got to make compromises. People pay for thrills. Well, thrills can be staged landside, can't they?"

Hale moved his shoulders uncomfortably. "I don't like it."

"Yes, but it *could* be done. Just in theory—is there anything going on landside right now that could be built up?"

After a pause, Hale said, "Well, we've been having trouble with an ambulant vine — it's thermotropic. Body heat attracts it. Refrigerating units in our jungle suits stop it cold, of course. And it's easy to draw it off by tossing thermite or something hot around. It heads for that instead of us, and gets burned into ash."

"What does it look like?"

Hale went into details. Sam sat back, looking pleased.

"That's the ticket. Perfectly safe, but it'll look ugly as the devil. That ought to help us screen out the unfit by scaring 'em off right at the start. We'll just have your men turn off

their refrigerating units and stage a battle with the vines, while somebody stands by out of camera range with thermite ready to throw. We'll send out a message that the vines are breaking through—cover it with televisor—and that does it!"

"No," Hale said.

"The Crusades started as a publicity stunt," Sam remarked. But he didn't press the point just yet. Instead he mentioned the fact that both of them would be dead within thirty-six hours now unless something could be worked out. He had seen a flicker in the wall screen. It was time to bring up the next subject on the agenda.

"The Families could get rid of us both in ways that look perfectly innocent. A few germs, for instance. They've got us cold unless we do something drastic. My idea is to try a trick so outrageous they won't know how to meet it until it's had a chance to work."

"What do you mean?"

"The Families depend tremendously on their own prestige to maintain their power. Their real power is an intangible—longevity. But public faith in their infallibility has kept them on top. Attack that. Put them in a spot where they've got to *defend* us."

"But how?"

"You're a public darling. Harker gave me a forty-eight hour deadline because he was afraid you might turn up a henchman at any moment who could step into your shoes and carry on the crusade even if he got you out of the way." Sam tapped his own chest. "I'm the man. I've got to be, to save my own skin. But it offers you an out, too. We halve the danger if either of us is replaceable—by the other. It wouldn't solve anything to kill either of us if the other lives."

"But how the devil do you expect to make yourself that important to the public in the few hours you've got left?" Hale was really interested now.

Sam gave him a confident grin. Then he kicked the leg of his chair. An opening widened in the hall and the Slider came in, sniffling.

He lowered his great bulk to a chair and looked curiously at Hale. Sam said, "First—the Sheffield gang's after me. I can't afford to fight it out right now. Got something really big on the fire. Can you call 'em off?"

"Might manage it," the Slider said. It was a guarantee. The old poisonmaster was still a top danger in the underworld of the Keeps.

"Thanks." Sam turned in his chair to face the Slider. "Now, the important thing. I need a quick job of sound-track faking."

"That's easy," the Slider assured him, and sniffled.

"*And* the faces to match."

"That's harder. Whose faces?"

"Zachariah Harker, for one. Any other Harkers or Waltons you've got on file, but Zachariah first."

The Slider stared hard at him, forgetting for the moment even to sniffle. "*Harkers?*" he demanded. And then chuckled unexpectedly. "Well, guess I can swing it, but it'll cost you. How soon you want the job done?"

Sam told him.

Faking a sound-track was an immemorially old gag, almost as old as sound-tracks themselves. It takes only nominal skill to snip out and rearrange already spoken words into new sequences. But only recently had a technique been developed for illicit extensions of the idea. It took a very deft operator, and a highly skilled one, to break down speech-sounds into their basic sibilants and gutturals and build up again a whole new pattern of speech. It was not usually possible to transpose from one language to another because of the different phonetic requirements, but any recorded speech of reasonable length could usually be mined for a large enough number of basic sounds to construct almost any other recorded speech out of its building blocks.

From this it was, of course, only a step to incorporating the speaker visually into the changed speech. The lips that shaped each sound could be stopped in mid-syllable and the pictures transposed with the sounds.

The result was jerky to the ear and eye. There was always a certain amount of reducing and enlarging and adjustment to make the faces from various speeches into a single speech. Some experiments had even been made to produce a missing full-face view, for verisimilitude, by projecting onto a three-dimensional form the two-dimensional images of profile or three-quarter views to blend into the desired face, and photographing that anew. Afterward a high degree of skill was necessary to blend and blur the result into convincing smoothness.

The Slider had access to a technician who knew the job forward and backward. And there were plenty of Harker and Walton records on file. But at best it was a dangerous thing to tamper with and Sam knew it. He had no choice.

It took five hours to talk Robin Hale into the hoax. Sam had to convince him of his own danger first; there were Family agents by now ringing in the building where they hid, so that wasn't too hard. Then he had to convince him of Sam's own trustworthiness, which Sam finally managed by rehearsing his arguments with the straps of a pressure gauge recording his blood-reactions for conscious lies. That took some semantic hedging, for Sam had much to conceal and had to talk around it.

"You and I are as good as dead," he told Hale, with the recording needles holding steady, for this was true enough. "Sure, this trick is dangerous. It's practically suicide. But if I've got to die anyhow, I'd as soon do it taking chances. And it's our only chance, unless you can think of something better. Can you?"

The Immortal couldn't.

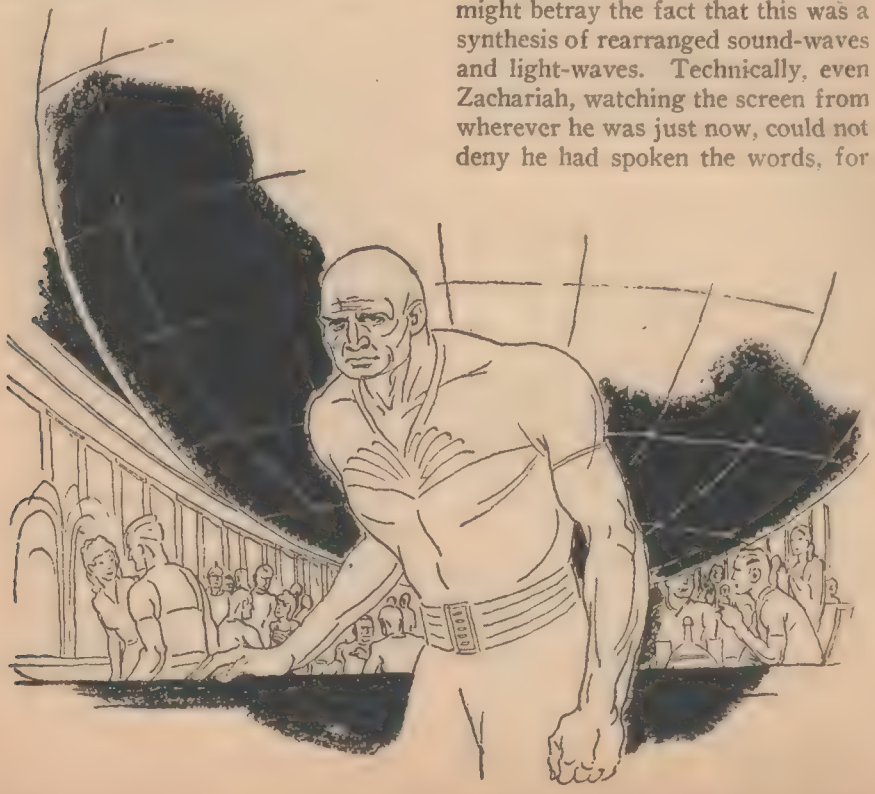
And so on the evening telecast advance word went out that Robin Hale would make an important announcement about the colony. All through the Keeps, visors were tuned in on the telecast, waiting. What they were really waiting for was a moment when the Harkers and Waltons involved in the faked reel were together and out of the way.

The private lives of the Immortals were never very private, and the Slider had a network of interlocking connections that functioned very efficiently. Hale's influence kept the telecast schedule open and waiting, and presently word came that the Immortals involved were all accounted for.

Then on the great public screens and on countless private ones the driving color-ads gave place to Robin Hale's face. He was dressed for landside, and he spoke his lines with a reluctance and a haste to get it over that gave the words an air of unexpected conviction.

He said he had hoped to tell them in detail of the magnificent idea which his good friend Sam Reed had produced to make full-scale colonizing possible without delay. But trouble landside had just broken out and he had been called up to offer his experience as an old Free Companion to the men who were facing a new and deadly menace up above them all, on the jungle shore. Then he offered them a stiff, quick salute and left the screen.

Zachariah Harker's face replaced Hale's. It would have taken a better than expert eye to detect the faint qualities of unevenness which might betray the fact that this was a synthesis of rearranged sound-waves and light-waves. Technically, even Zachariah, watching the screen from wherever he was just now, could not deny he had spoken the words, for



every sound he heard and every motion of his own lips was genuine.

The synthetic speech was a triumph in semantics. It was typical of Sam that he should use this boldly suicidal venture not only to clear himself and Hale, if he could, but also to further his plans for the colony. So Harker was made to name Sam—brought forward with modest reluctance to stand beside the Immortal as the speech went on—as the public-spirited, adventurous philanthropist who was going to make the colonizing crusade possible.

Sam Reed, man of the people, short-lived but far-seeing, would lead his fellows to success behind Robin Hale in the great crusade. Landside lay the future of the race. Even the Harkers, Zachariah said, had been convinced of that by the persuasions of Sam and Hale. A great adventure lay ahead. Volunteers would be accepted for examination very soon. *Ad astra per aspera!*

He spoke of danger. He went into details, each word carefully chosen and charted to make the listeners discontented. He hinted at the stagnation of the Keeps, of growing racial debility, new vulnerabilities to disease. And most important—man had stopped growing. His destiny was no longer to be found in the Keeps. The great civilizations of Earth must not reach a dead end under the seas of this fertile planet. *Ad astra!*

Zachariah's face left the screen. Sam stepped forward to clinch the matter, nervous and deeply worried under his calm. Now that he had actually done this, he quivered with belated qualms. What would the Harkers do when they discovered how fantastically they had been tricked? How outrageously their innermost convictions had been reversed and repudiated before all the Keeps, apparently in their own words! They must be moving already; the Families were geared to rapid action when the need arose. But what they would do Sam couldn't guess.

He spoke with quiet confidence into the screen. He outlined his ideas for offering the people themselves the opportunity to join in the crusade, financially if not personally. In deft words he referred to the hardships and dangers of landside; he wanted to discourage all but the hardiest from offering as personal volunteers. And to aid in that, as well as to provide a smash finale to his scheme, he made his great announcement.

Something which until today had been a plaything for the wealthy would now be offered to all who owned shares in the magnificent venture before mankind. Each participant could watch the uses to which his money was put, share almost at first hand in the thrills and perils of landside living.

Look!

On the screen flashed a dizzying view of jungle that swooped up toward the beholder with breathtaking swiftness. A ring of velvet-black mud studded the flowery quilt of treetops. The ring swung up toward the view and you could see an iridescent serpent slithering across the blackness. The mud erupted and a

mud-wolf's jaws closed upon the snake. Blood and mud spattered wildly. Churning and screaming, the combatants sank from sight and the velvety pool quivered into stillness again except for the rings that ran out around it from time to time as bubbles of crimson struggled up and burst on the surface with dull plops which every listener in the Keeps could hear.

Sam thanked his audience. He asked their patience for a few days longer, until the first examination trials could be set up. He observed with arrogant humility that he hoped to earn their trust and faith by his service toward themselves and the Free Companion, who had left all such matters in his hands while Hale himself struggled up there on landside in the jungles he knew so well. We would all, Sam finished, soon be watching such struggles, with men instead of monsters enlisting our sympathy in their brave attempts to conquer Venus as our forebears once conquered Old Earth . . .

The Families did nothing.

It worried Sam more than any direct action could possibly have done. For there was nothing here he could fight. Profoundly he distrusted that silence. All telecast attempts to interview any of the Immortals on this tremendous subject which was uppermost, overnight, in every mind, came to nothing. They would smile and nod and refuse to comment—yet.

But the plans went on at breakneck rate. And after all, Sam told himself, what could the Harkers do? To deny the public this delightful new toy might be disastrous. You can't give candy to a baby and then snatch it away untasted without rousing yells of protest. The people of the Keeps were much more formidable than babies, and they were used to collapsing into paternalistic hands. Remove the support, and you might expect trouble.

Sam knew he had won a gambit, not the game. But he had too much to do just now to let the future worry him. All this was to be a swindle, of course. He had never intended anything else.

Paradoxically, Sam trusted the judgment of the Harkers. They thought this attempt would fail. Sam was sure they were right. Of course the Logician believed that colonizing *would* succeed, and the Logician normally should be right. How can a machine err? But the machine had erred, very badly, in its analysis of Sam himself, so it isn't strange that he disbelieved all its conclusions now.

The only way to make the scheme succeed as Sam intended it to succeed was to insure its failure. Sam was out this time for really big money. The public clamored to buy, and Sam sold and sold.

He sold three hundred per cent of the stock.

After that he had to fail. If he put the money into landside development there'd be nothing left over for the promoter, and anyhow, how could he pay off on three hundred per cent?

But on paper it looked beautiful. New sources of supply and demand,

a booming culture rising from the underseas, shaking off the water from gigantic shoulders, striding onto the shore. And then interplanetary and interstellar travel for the next goal. *Ad astra* was a glorious dream, and Sam worked it for all it was worth.

Two months went by.

Rosathe, like all the other fruits of success, dropped delightfully into his arms. Sam closed all three of his apartments and with Rosathe found a new place, full of undreamed of luxuries, its windows opening out over the hydroponic garden that flourished as lavishly, though not so dangerously, as the jungles overhead. From these windows he could see the lights of the whole Keep spread out below, where every man danced to his piping. It was dreamlike, full of paranoid splendors, megalomaniac grandeur—and all of it true.

Sam didn't realize it yet, though looking back he would surely have seen, but he was spinning faster and faster down a vortex of events which by now were out of his control. Events would have blurred as they whirled by, if he had been given time enough to look back at them when the moment of reckoning came. But he was not given time . . .

Rosathe was sitting on a low hassock at his feet, her harp on her arm, singing very sweetly to him, when the moment finally came.

Her violet-blue skirts lay about her in a circle on the floor, her cloudy head was bent above the high horns of the lyre and her voice was very soft.

"Oh, slowly, slowly got she up, and slowly she came nigh . . . him. . . ." How delightfully the sweet voice soared on the last word! That dip and rise in the old ballads tried every voice but an instrument as true as the lovely instrument in Rosathe's throat. *"But all she said"*—Rosathe reported in that liquid voice — and was stopped by the musical buzzing of the televisor.

Sam knew it must be important, or it would never have been put through to him at this hour. Reluctantly he swung his feet to the floor and got up.

Rosathe did not lift her head. She sat quite motionless for an instant, curiously as if she had been frozen by the sound of the buzzer. Then without glancing up she swept the strings with polished fingertips and sang her final line. *"Young man, I think you're dyin' . . ."*

The cloudiness of the visor screen cleared as Sam flipped the switch and a face swam out of it that rocked him back a bit on his heels. It was Kedre Walton's face, and she was very angry. The black ringlets whipped like Medusa-locks as she whirled her head toward the screen. She must have been talking to someone in the background as she waited for Sam to acknowledge the call, for her anger was not wholly for Sam. He could see that. Her words belied it.

"Sam Reed, you're a fool!" she told him flatly and without preamble. The Egyptian calm was gone from her delicate, disdainful face. Even

the disdain was gone now. "Did you really think you could get away with all this?"

"I've got away with it," Sam assured her. He was very confident at that point in the progress of his scheme.

"You poor fool, you've never fought an Immortal before. Our plans work slowly. We can afford to be slow! But surely you didn't imagine Zachariah Harker would let you do what you did and live! He—"

A voice from behind her said, "Let me speak for myself, Kedre, my dear," and the smooth, ageless young face of Zachariah looked out at Sam from the screen. The eyes were quietly speculative as they regarded him. "In a way I owe you thanks, Reed," the Immortal's voice said. "You were clever. You had more resources than I expected. You put me on my mettle, and that's an unexpected pleasure. Also, you've made it possible for me to overthrow Hale's whole ambitious project. So I want to thank you for that, too. I like to be fair when I can afford to be."

His eyes were the eyes of a man looking at something so impersonally that Sam felt a sudden chill. Such remoteness in time and space and experience—as if Sam were not there at all. Or as if Harker were looking already on death. Something as impersonal and remote from living as a corpse. As Sam Reed.

And Sam knew a moment's profound shaking of his own convictions — he had a flash of insight in which he thought that perhaps Harker had planned it this way from the start, knowing that Sam would doublecross him with Hale, and knowing that Sam would doublecross Hale, too. Sam was the weak link in Hale's crusade, the one thing that might bring the whole thing crashing if anyone suspected. Until now, Sam had been sure no one did suspect.

But Zachariah Harker knew.

"Good-by, Reed," the smooth voice said. "Kedre, my dear—"

Kedre's face came back into the screen. She was still angry, but the anger had been swallowed up in another emotion as her eyes met Sam's. The long lashes half veiled them, and there were tears on the lashes.

"Good-by, Sam," she said. "Good-by." And the blue glance flickered across his shoulder.

Sam had one moment to turn and see what was coming, but not time enough to stop it. For Rosathe stood at his shoulder, watching the screen, too. And as he turned her pointed fingers which had evoked music from the harp for him this evening pinched together suddenly and evoked oblivion.

He felt the sweet, terrifying odor of dust stinging in his nostrils. He stumbled forward futilely, reaching for her, meaning to break her neck. But she floated away before him, and the whole room floated, and then Rosathe was looking down on him from far above, and there were tears in her eyes, too.

The fragrance of dream-dust blurred everything else. Dream-dust, the narcotic euthanasia dust which was the way of the suicide.

His last vision was the sight of

the tear-wet eyes looking down, two women who must have loved him to evoke those tears, and who together had worked out his ruin.

He woke. The smell of scented dust died from his nostrils. It was dark here. He felt a wall at his shoulder, and got up stiffly, bracing himself against it. Light showed blurrily a little way off. The end of an alley, he thought. People were passing now and then through the dimness out there.

The alley hurt his feet. His shoes felt queer and loose. Investigating, Sam found that he was in rags, his bare feet pressing the pavement through broken soles. And the fragrance of dream-dust was still a miasma in the air around him.

Dream-dust—that could put a man to sleep for a long, long while. *How long!*

He stumbled toward the mouth of the alley. A passer-by glanced at him with curiosity and distaste. He reached out and collared the man.

"The Colony," he said urgently. "Has it—have they opened it yet?"

The man struck his arm away. "What colony?" he asked impatiently.

"The Colony! The Land Colony!"

"Oh, that." The man laughed. "You're a little late." Clearly he thought Sam was drunk. "It's been open a long time now — what's left of it."

"How long?"

"Forty years."

Sam hung on the bar of a vending machine in the wall at the alley mouth. He had to hold the bar to keep himself upright, for his knees were strengthless beneath him. He was looking into the dusty mirror and into his own eyes. "Forty years. Forty years!" And the ageless, unchanged face of Sam Harker looked back at him, ruddy-browed, unlined as ever.

"Forty years!" Sam Harker murmured to himself.

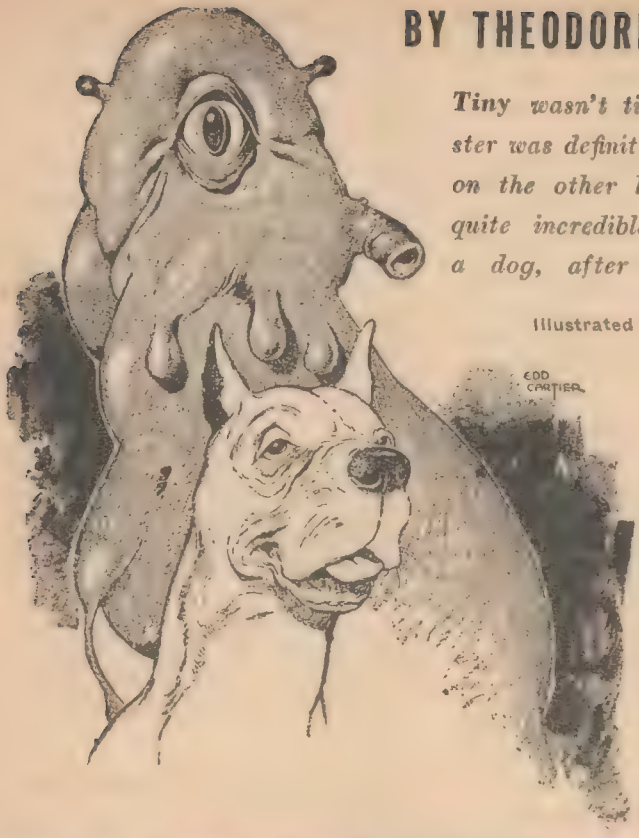
TO BE CONTINUED.

IN TIMES TO COME

Next month features an A. E. van Vogt yarn, "Centaurus II." It's the skillful piece of work you expect from van Vogt—and an interesting background theme, considering the political wanderings of an isolated colony of men. But there's another item you'll find highly interesting about that next issue—the cover is by Schneeman; the black and whites for "Centaurus II" are Schneeman's, too.

Gradually, bit by bit, we're getting back the old gang from one place and another. Schneeman, incidentally, came back via our sister magazine, AIR TRAILS AND SCIENCE FRONTIERS. R. S. Richardson has an article "Forty Steps To The Moon" coming up, with Schneeman illustrations. And, of interest to science-fictioneers, AIR TRAILS AND SCIENCE FRONTIERS is running in its current May issue, an article "Fortress In The Sky." It's a discussion of the military potentialities of a Lunar base.

THE EDITOR.



BY THEODORE STURGEON

Tiny wasn't tiny—but the monster was definitely horrific. Tiny, on the other hand, displayed a quite incredible intelligence for a dog, after one encounter—

Illustrated by Cartier

TINY AND THE MONSTER

She *had* to find out about Tiny—*everything* about Tiny.

They were bound to call him Tiny. The name was good for a laugh when he was a pup, and many times afterward.

He was a Great Dane, unfashionable with his long tail, smooth and glossy in the brown coat which fit so snugly over his heavily muscled shoulders and chest. His eyes were big and brown and his feet were big and black; he had a voice like thunder and a heart ten times his own great size.

He was born in the Virgin Islands, on St. Croix, which is a land of palm trees and sugar, of soft winds and luxuriant undergrowth whispering with the stealthy passage of pheasant and mongoose. There were rats in the ruins of the ancient estate houses

which stood among the foothills—
—ruins with slave-built walls forty inches thick, and great arches of weathered stone. There was pasture land where the field mice ran, and brooks asparkle with gaudy blue minnows.

But — where in St. Croix had he learned to be so strange?

When Tiny was a puppy, all feet and ears, he learned many things. Most of these things were kinds of respect. He learned to respect that swift, vengeful piece of utter engineering called a scorpion, when one of them whipped its barbed tail into his inquiring nose. He learned to respect the heavy deadness of the air about him which preceded a hurricane, for he knew that it meant hurry and hammering and utmost obedience from every creature on the estate. He learned to respect the justice of sharing, for he was pulled from the teat and from the trough when he crowded the others of his litter. He was the largest.

These things, all of them, he learned as respects. He was never struck, and although he learned caution he never learned fear. The pain he suffered from the scorpion — it only happened once — the strong but gentle hands which curbed his greed, the frightful violence of the hurricane which followed the tense preparations — all these things and many more taught him the justice of respect. He half understood a basic ethic; namely, that he would never be asked to do something, or to refrain from doing something, unless there were a good reason for it. His obedience, then, was a thing implicit, for it was half-reasoned; and since it was not based on fear, but on justice, it could not interfere with his resourcefulness.

All of which, along with his blood, explained why he was such a splendid animal. It did not explain how he learned to read. It did not explain why Alec was compelled to sell him — not only to sell him but to search out Alistair Forsythe and sell him to her.

She *had* to find out. The whole thing was crazy. She hadn't wanted a dog. If she had wanted a dog, it wouldn't have been a Great Dane. And if it had been a Great Dane, it wouldn't have been Tiny, for he was a Crucian dog and had to be shipped all the way to Scarsdale, New York by air.

The series of letters she sent to Alec were as full of wondering persuasion as his had been when he sold her the dog. It was through these letters that she learned about the scorpion and the hurricane; about Tiny's puppyhood and the way Alec brought up his dogs. If she learned something about Alec as well, that was understandable. Alec and Alistair Forsythe had never met, but through Tiny they shared a greater secret than many people who have grown up together.

"As for why I wrote you, of all people," Alec wrote in answer to her direct question, "I can't say I chose you at all. It was Tiny. One of the cruise-boat people mentioned your name at my place, over cocktails one afternoon. It was, as I remember, a Dr. Schwellenbach. Nice old fellow. As soon as your name was men-

tioned, Tiny's head came up as if I had called him. He got up from his station by the door and lolloped over to the doctor with his ears up and his nose quivering. I thought for a minute that the old fellow was offering him food, but no—he must have wanted to hear Schwellenbach say your name again. So I asked about you. A day or so later I was telling a couple of friends about it, and when I mentioned the name again, Tiny came snuffling over and shoved his nose into my hand. He was shivering. That got me. I wrote to a friend in New York who got your name and address in the phone book. You know the rest. I just wanted to tell you about it at first, but something made me suggest a sale. Somehow it didn't seem right to have something like this going on and not have you meet Tiny. When you wrote that you couldn't get away from New York, there didn't seem to be anything else to do but send Tiny to you. And now — I don't know if I'm too happy about it. Judging from those pages and pages of questions you keep sending me, I get the idea that you are more than a little troubled by this crazy business."

She answered, "*Please* don't think I'm troubled about this! I'm not. I'm interested, and curious, and more than a little excited; but there is nothing about the situation which frightens me. I can't stress that enough. There's something around Tiny—sometimes I have the feeling it's something outside Tiny—which is infinitely comforting. I feel protected, in a strange way, and it's a different and greater thing than the protection I could expect from a large and intelligent dog. It's strange, and it's mysterious enough; but it isn't at all frightening.

"I have some more questions. Can you remember exactly what it was that Dr. Schwellenbach said the first time he mentioned my name and Tiny acted strangely? Was there ever any time that you can remember, when Tiny was under some influence other than your own — something which might have given him these strange traits? What about his diet as a puppy? How many times did he get—" and so on.

And Alec answered, in part, "It was so long ago now that I can't remember exactly; but it seems to me Dr. Schwellenbach was talking about his work. As you know, he's a professor of metallurgy. He mentioned Professor Nowland as the greatest alloy specialist of his time — said Nowland could alloy anything with anything. Then he went on about Nowland's assistant. Said the assistant was very highly qualified, having been one of these Science Search products and something of a prodigy; in spite of which she was completely feminine and as beautiful a redhead as had ever exchanged heaven for earth. Then he said her name was Alistair Forsythe. (I hope you're not blushing, Miss Forsythe; you asked for this!) And then it was that Tiny ran over to the doctor in that extraordinary way.

"The only time I can think of when Tiny was off the estate and possibly under some influence was

the day old Debbil disappeared for a whole day with the pup when he was about three months old. Debbil is one of the characters who hang around here. He's a Crucian about sixty years old, a piratical-looking old gent with one eye and elephantiasis. He shuffles around the grounds running odd errands for anyone who will give him tobacco or a shot of white rum. Well, one morning I sent him over the hill to see if there was a leak in the water line that runs from the reservoir. It would only take a couple of hours, so I told him to take Tiny for a run.

"They were gone for the whole day. I was short handed and busy as a squirrel in a nuthouse and didn't have a chance to send anyone after him. But he drifted in towards evening. I bawled him out thoroughly. It was no use asking him where he had been; he's only about quarter-witted anyway. He just claimed he couldn't remember, which is pretty usual for him. But for the next three days I was busy with Tiny. He wouldn't eat, and he hardly slept at all. He just kept staring out over the canefields at the hill. He didn't seem to want to go there at all. I went out to have a look. There's nothing out that way but the reservoir and the old ruins of the governor's palace, which have been rotting out there in the sun for the last century and a half. Nothing left now but an overgrown mound and a couple of arches, but it's supposed to be haunted. I forgot about it after that because Tiny got back to normal. As a matter of fact, he seemed to be better than ever, although, from then on, he would sometimes freeze and watch the hill as if he were listening to something. I haven't attached much importance to it until now. I still don't. Maybe he got chased by some mongoose's mother. Maybe he chewed up some ganja-weed — marijuana to you. But I doubt that it has anything to do with the way he acts now, any more than that business of the compasses which pointed west might have something to do with it. Did you hear about that, by the way? Craziest thing I ever heard of. It was right after I shipped Tiny off to you last fall, as I remember. Every ship and boat and plane from here to Sandy Hook reported that its compass began to indicate due west instead of a magnetic north! Fortunately the effect only lasted a couple of hours so there were no serious difficulties. One cruise steamer ran aground, and there were a couple of Miami fishing boat mishaps. I only bring it up to remind both of us that Tiny's behavior may be odd, but not exclusively so in a world where such things as the crazy compasses occur."

And in her next, she wrote, "You're quite the philosopher, aren't you? Be careful of that Fortean attitude, my tropical friend. It tends to accept the idea of the unexplainable to an extent where explaining, or even investigating, begins to look useless. As far as that crazy compass episode is concerned, I remember it well indeed. My boss, Dr. Nowland — yes, it's true, he can alloy anything with anything! — has been up to the ears in that fantastic happenstance. So have most of his

colleagues in half a dozen sciences. They're able to explain it quite satisfactorily, too. It was simply the presence of some quasi-magnetic phenomenon which created a resultant field at right angles to the Earth's own magnetic influences. That solution sent the pure theorists home happy. Of course, the practical ones—Nowland and his associates in metallurgy, for example—have only to figure out what caused the field. Science is a wonderful thing.

"By the way, you will notice my change of address. I have wanted for a long time to have a little house of my own, and I was lucky enough to get this one from a friend. It's up the Hudson from New York, quite countrified but convenient enough to the city to be practical. I'm bringing Mother here from upstate. She'll love it. And besides—as if you didn't know the most important reason when you saw it!—it gives Tiny a place to run. He's no city dog. . . . I'd tell you that he found the house for me, too, if I didn't think that, these days, I'm crediting him with even more than his remarkable powers. Gregg and Marie Weems, the couple who had the cottage before, began to be haunted. So they said, anyway. Some indescribably horrible monster that both of them caught glimpses of, inside the house and out of it. Marie finally got the screaming meemies about it and insisted on Gregg's selling the place, housing shortage or no. They came straight to me. Why? Because they—Marie, anyway; she's a mystic little thing—had the idea that someone with a large dog would be safe in that house. The odd part of that was that neither of them knew I had recently acquired a Great Dane. As soon as they saw Tiny they threw themselves on my neck and begged me to take the place. Marie couldn't explain the feeling she had; what she and Gregg came to my place for was to ask me to buy a big dog and take the house. Why me? Well, she just felt I would like it, that was all. It seemed the right kind of a place for me. And my having the dog clinched it. Anyway, you can put that down in your notebook of unexplainables."

So it went for the better part of a year. The letters were long and frequent, and, as sometimes happens, Alec and Alistair grew very close indeed. Almost by accident they found themselves writing letters which did not mention Tiny at all, although there were others which concerned nothing else. And, of course, Tiny was not always in the rôle of *canis superior*. He was a dog—all dog—and acted accordingly. His strangeness only came out at particular intervals. At first it had been at times when Alistair was most susceptible to being astonished by it—in other words, when it was least expected. Later he would perform his odd feats when she was ready for him to do it, and under exactly the right circumstances. Later still, he only became the super-dog when she asked him to . . .

The cottage was on a hillside, such a very steep hillside that the view which looked over the river overlooked the railroad, and the trains

were a secret rumble and never a sight at all. There was a wild and clean air about the place—a perpetual tingle of expectancy, as though someone coming into New York for the very first time on one of the trains had thrown his joyous anticipation high in the air, and the cottage had caught it and breathed it and kept it forever.

Up the hairpin driveway to the house, one spring afternoon, toiled a miniature automobile in its lowest gear. Its little motor grunted and moaned as it took the last steep grade, a miniature Old Faithful appearing around its radiator cap. At the foot of the brownstone porch steps, it stopped, and a miniature lady slid out from under the wheel. But for the fact that she was wearing an aviation mechanic's coveralls, and that her very first remark — an earthy epithet directed at the steaming radiator — was neither ladylike nor miniature, she might have been a model for the more precious variety of Mother's Day greeting card.

Fuming, she reached into the car and pressed the horn button. The quavering ululation which resulted had its desired effect. It was answered instantly by the mighty howl of a Great Dane at the peak of aural agony. The door of the house crashed open, and a girl rushed out on the porch, to stand with her russet hair ablaze in the sunlight, her lips parted, and her long eyes squinting against the light reflected from the river. "What—Mother! Mother, darling . . . is that you? Already? Tiny!" she rapped as the dog bolted out of the open door and down the steps. "Come back here!"

The dog stopped. Mrs. Forsythe scooped a crescent wrench from the ledge behind the driver's seat and brandished it. "Let him come, Alistair," she said grimly. "In the name of sense, girl, what are you doing with a monster like that? I thought you said you had a dog, not a Shetland pony with fangs. If he messes with me, I'll separate him from a couple of those twelve-pound feet and bring him down to my weight. Where do you keep his saddle? I thought there was a meat shortage in this part of the country. Whatever possessed you to take up your abode with that carniverous dromedary, anyway? And what's the idea of buying a barn like this, thirty miles from nowhere and perched on a precipice to boot, with a stepladder for a driveway and an altitude fit to boil water at eighty degrees centigrade? It must take you forever to make breakfast. Twenty-minute eggs, and then they're raw. I'm hungry. If that Danish basilisk hasn't eaten everything in sight, I'd like to nibble on about eight sandwiches. Salami on whole wheat. Your flowers are gorgeous, child. So are you. You always were, of course. Pity you have brains. If you had no brains, you'd get married. A lovely view, honey, lovely. I like it here. Glad you bought it. Come here, you." she said to Tiny.

He approached this small specimen of volubility with his head a little low and his tail down. She extended a hand and held it still to let him sniff it before she thumped him on

the withers. He waved his unfashionable tail in acceptance and then went to join the laughing Alistair, who was coming down the steps.

"Mother, you're marvelous. And you haven't changed a bit." She bent and kissed her. "What on earth made that awful noise?"

"Noise? Oh — the horn." Mrs. Forsythe busily went about lifting the hood of the car. "I have a friend in the shoelace business. Wanted to stimulate trade for him. Fixed this up to make people jump out of their shoes. When they jump they break the laces. Leave their shoes in the street. Thousands of people walking about in their stocking feet. More people ought to anyway. Good for the arches." She pointed. There were four big air-driven horns mounted on and around the little motor. Over the mouth of each was a shutter, so arranged that it revolved about an axle which was set at right angles to the horn, so that the bell was opened and closed by four small DC motors. "That's what gives it the warble. As for the beat-note, the four of them are tuned a sixteenth-tone apart. Pretty?"

"Pretty," Alistair conceded with sincerity. "No—please don't demonstrate it again, Mother! You almost wrenched poor Tiny's ears off the first time."

"Oh—did I?" Contritely, she went to the dog. "I didn't mean to, honey-poodle, really I didn't." The honey-poodle looked up at her with somber brown eyes and thumped his tail on the ground. "I like him," said Mrs. Forsythe decisively. She put out a fearless hand and pulled affectionately at the loose flesh of Tiny's upper lip. "Will you look at those tusks! Great day in the morning, dog, reel in some of that tongue or you'll turn yourself inside out. Why aren't you married yet, chicken?"

"Why aren't you?" Alistair countered.

Mrs. Forsythe stretched. "I've *been* married," she said, and Alistair knew now her casualness was forced. "A married season with the likes of Dan Forsythe sticks with you." Her voice softened. "Your daddy was all kinds of good people, baby." She shook herself. "Let's eat. I want to hear about Tiny. Your driblets and drablets of information about that dog are as tantalizing as Chapter Eleven of a movie serial. Who's this Alec creature in St. Croix? Some kind of native — cannibal, or something? He sounds nice. I wonder if you know how nice *you* think he is? Good heavens, the girl's blushing! I only know what I read in your letters, darling, and I never knew you to quote anyone by the paragraph before but that old scoundrel Nowland, and that was all about ductility and permeability and melting points. Metallurgy! A girl like you mucking about with molybs and durals instead of heartbeats and hope chests!"

"Mother, sweetheart, hasn't it occurred to you at all that I don't *want* to get married? Not yet, anyway."

"Of course it has! That doesn't alter the fact that a woman is only forty per cent a woman until someone loves her, and only eighty per cent a woman until she has children.

As for you and your precious career, I seem to remember something about a certain Marie Slodowska who didn't mind marrying a fellow called Curie, science or no science."

"Darling," said Alistair a little tiredly, as they mounted the steps and went into the cool house, "once and for all, get this straight. The career, as such, doesn't matter at all. The work does. I like it. I don't see the sense in being married purely for the sake of being married."

"Oh, for heaven's sake, child, neither do I!" said Mrs. Forsythe quickly. Then, casting a critical eye over her daughter, she sighed, "But it's such a waste!"

"What do you mean?"

Her mother shook her head. "If you don't get it, it's because there's something wrong with your sense of values; in which case there's no point in arguing. I love your furniture. Now for pity's sake feed me and tell me about this canine Carnera of yours."

Moving deftly about the kitchen while her mother perched like a bright-eyed bird on a utility ladder, Alistair told the story of her letters from Alec, and Tiny's arrival.

"At first he was just a dog. A very wonderful dog, of course, and extremely well trained. We got along beautifully. There was nothing remarkable about him but his history, as far as I could see, and certainly no indication of . . . of anything. I mean, he might have responded to my name the way he did because the syllabic content pleased him."

"It should," said her mother complacently. "Dan and I spent weeks at a sound laboratory graphing a suitable name for you. Alistair Forsythe. Has a beat, you know. Keep that in mind when you change it."

"Mother!"

"All right, dear. Go on with the story."

"For all I knew, the whole thing was a crazy coincidence. Tiny didn't respond particularly to the sound of my name after he got here. He seemed to take a perfectly normal, doggy pleasure in sticking around, that was all.

"Then, one evening after he had been with me about a month, I found out he could read."

"Read!" Mrs. Forsythe toppled, clutched the edge of the sink, and righted herself.

"Well, practically that. I used to study a lot in the evenings, and Tiny used to stretch out in front of the fire with his nose between his paws and watch me. I was tickled by that. I even got the habit of talking to him while I studied. I mean, about the work. He always seemed to be paying very close attention, which, of course, was silly. And maybe it was my imagination, but the times he'd get up and nuzzle me always seemed to be the times when my mind was wandering, or when I would quit working and go on to something else.

"This particular evening I was working on the permeability mathematics of certain of the rare-earth group. I put down my pencil and reached for my 'Handbook of Chemistry and Physics' and found nothing but a big hole in the bookcase. The book wasn't on the desk either. So I swung around to Tiny and said, just for something to say, 'Tiny, what have you done with my handbook?'

"He went *whuff!* in the most startled tone of voice, leapt to his feet and went over to his bed. He turned up the mattress with his paw and scooped out the book. He picked it up in his jaws — I wonder what he would have done if he were a Scotty? That's a chunky piece of literature!—and brought it to me.

"I just didn't know what to do. I took the book and riffled it. It was pretty well shoved around. Apparently he had been trying to leaf through it with those big splay feet of his. I put the book down and took him by the muzzle. I called him nine kinds of a rascal and asked him what he was looking for." She paused, building a sandwich.

"Well?"

"Oh," said Alistair, as if coming back from a far distance. "He didn't say."

There was a thoughtful silence. Finally Mrs. Forsythe looked up with her odd birdlike glance and said, "You're kidding. That dog isn't shaggy enough."

"You don't believe me." It wasn't a question.

The older woman got up to put a hand on the girl's shoulder. "Honeylamb, your daddy used to say that the only things worth believing were things you learned from people you trusted. Of course I believe you. Thing is—do *you* believe you?"

"I'm not — sick, Mum, if that's what you mean. Let me tell you the rest of it."

"You mean there's more?"

"Plenty more." She put the stack of sandwiches on the sideboard where her mother could reach it. Mrs. Forsythe fell to with a will. "Tiny has been goading me to do

research. A particular kind of research."

"Hut hine uffefa?"

"Mother! I didn't give you those sandwiches only to feed you. . The idea was to soundproof you a bit, too, while I talked."

"Hohay!" said her mother cheerfully.

"Well, Tiny won't let me work on any other project but the one he's interested in. Mum, I can't talk if you're going to gape like that! No . . . I can't say he won't let me do *any* work. But there's a certain line of endeavor which he approves. If I do anything else, he snuffles around, joggles my elbow, grunts, whimpers, and generally carries on until I lose my temper and tell him to go away. Then he'll walk over to the fireplace and flop down and sulk. Never takes his eyes off me. So, of course, I get all soft-hearted and repentant and apologize to him and get on with what he wants done."

Mrs. Forsythe swallowed, coughed, gulped some milk and exploded, "*Wait* a minute! You're away too fast for me! What is it that he wants done? How do you know he wants it? Can he read, or can't he? Make some sense, child!"

Alistair laughed richly. "Poor Mum! I don't blame you, darling. No, I don't think he can really read. He shows no interest at all in books or pictures. The episode with the Handbook seemed to be an experiment that didn't bring any results. *But* — he knows the difference between my books, even books that are bound alike, even when I shift them around in the bookcase. Tiny!"

The Great Dane scrambled to his feet from the corner of the kitchen, his paws skidding on the waxed linoleum. "Get me Hoag's *'Basic Radio'*, old feller, will you?"

Tiny turned and padded out. They heard him going up the stairs. "I was afraid he wouldn't do it while you were here," she said. "He generally warns me not to say anything about his powers. He growls. He did that when Dr. Nowland dropped out for lunch one Saturday. I started to talk about Tiny, and just couldn't. He acted disgracefully. First he growled and then he barked. It was the first time I've ever known him to bark in the house. Poor Dr. Nowland! He was scared half out of his wits!"

Tiny thudded down the stairs and entered the kitchen. "Give it to Mum," said Alistair. Tiny walked sedately over to the stool and stood before the astonished Mrs. Forsythe. She took the volume from his jaws.

"*'Basic Radio'*," she breathed.

"I asked him for that because I have a whole row of technical books up there, all from the same publisher, all the same color and about the same size," said Alistair calmly.

"But . . . but . . . how does he do it?"

Alistair shrugged. "*I* don't know! He doesn't read the titles. That I'm sure of. He can't read anything. I've tried to get him to do it a dozen different ways. I've lettered instructions on pieces of paper and shown them to him . . . you know . . . 'Go to the door' and 'Give me a kiss' and so on. He just looks at them and

wags his tail. But if I read them first—"

"You mean, read them aloud?"

"No. Oh . . . he'll do anything I ask him to, sure. But I don't have to say it. Just read it, and he turns and does it. That's the way he makes me study what he wants studied."

"Are you telling me that that behemoth can read your mind?"

"What do you think? Here—I'll show you. Give me the book."

Tiny's ears went up. "There's something in here about the electrical flux in super-cooled copper that I don't quite remember. Let's see if Tiny's interested."

She sat on the kitchen table and began to leaf through the book. Tiny came and sat in front of her, his tongue lolling out, his big brown eyes fixed on her face. There was silence as she turned pages, read a little, turned some more. And suddenly Tiny whimpered urgently.

"See what I mean, Mum? All right, Tiny. I'll read it over."

Silence again, while Alistair's long green eyes traveled over the page. All at once Tiny stood up and nuzzled her leg.

"Hm-m-m? The reference? Want me to go back?"

Tiny sat again, expectantly. "There's a reference here to a passage in the first section on basic electric theory that he wants," she explained. She looked up. "Mother! You read it to him!" She jumped off the table, handed the book over. "Here. Section 45. Tiny! Go listen to Mum. Go on!" and she shoved him toward Mrs. Forsythe, who said in an awed voice, "When I was a little girl, I used to read bedtime stories to my dolls. I thought I'd quit that kind of thing altogether, and now I'm reading technical literature to this . . . this canine catastrophe here. Shall I read aloud?"

"No—don't. See if he gets it."

But Mrs. Forsythe didn't get the chance. Before she had read two lines Tiny was frantic. He ran to Mrs. Forsythe and back to Alistair. He reared up like a frightened horse, rolled his eyes, and panted. He whimpered. He growled a little.

"For pity's sakes what's wrong?"

"I guess he can't get it from you," said Alistair. "I've had the idea before that he's tuned to me in more ways than one, and this clinches it. All right, then. Give me back the—"

But before she could ask him, Tiny had bounded to Mrs. Forsythe, taken the book gently out of her hands, and carried it to his mistress. Alistair smiled at her paling mother, took the book, and read until Tiny suddenly seemed to lose interest. He went back to his station by the kitchen cabinet and lay down yawning.

"That's that," said Alistair, closing the book. "In other words, class dismissed. Well, Mum?"

Mrs. Forsythe opened her mouth, closed it again, and shook her head. Alistair loosed a peal of laughter.

"Oh Mum, Mum," she gurgled through her laughter, "History has been made. Mum darling, you're speechless!"

"I am not," said Mrs. Forsythe gruffly. "I . . . I think . . . well, what do you know! You're right! I *am!*"

When they had their breath back—

yes, Mrs. Forsythe joined in, for Alistair's statement was indeed true—Alistair picked up the book and said, "Now look, Mum, it's almost time for my session with Tiny. Oh yes; it's a regular thing, and he certainly is leading me into some fascinating byways."

"Like what?"

"Like the old impossible problem of casting tungsten, for example. You know, there is a way to do it."

"You don't say! What do you cast it in—a play?"

Alistair wrinkled her straight nose. "Did you ever hear of pressure ice? Water compressed until it forms a solid at what is usually its boiling point?"

"I remember some such."

"Well, all you need is enough pressure, and a chamber which can take that kind of pressure, and a couple of details like a high-intensity field of umpteen megacycles phased with . . . I forget the figures; anyhow, that's the way to go about it."

"'If we had some eggs we could have some ham and eggs if we had some ham,'" quoted Mrs. Forsythe. "And besides, I seem to remember something about that pressure ice melting pretty much right now, like so," and she snapped her fingers. "How do you know your molded tungsten — that's what it would be, not cast at all—wouldn't change state the same way?"

"That's what I'm working on now," said Alistair calmly. "Come along, Tiny. Mum, you can find your way around all right, can't you? If you need anything, just sing out. This isn't a séance, you know."

"Isn't it, though?" muttered Mrs. Forsythe as her lithe daughter and the dog bounded up the stairs. She shook her head, went into the kitchen, drew a bucket of water and carried it down to her car, which had cooled to a simmer. She was dashing careful handfuls of it onto the radiator, before beginning to pour, when her quick ear caught the scrunching of boots on the steep drive.

She looked up to see a young man trudging wearily in the mid-morning heat. He wore an old sharkskin suit and carried his coat. In spite of his wilted appearance, his step was firm and his golden hair was crisp in the sunlight. He swung up to Mrs. Forsythe and gave her a grin, all deep-blue eyes and good teeth. "Forsythe's?" he asked, in a resonant baritone.

"That's right," said Mrs. Forsythe, finding that she had to turn her head from side to side to see both of his shoulders. And yet she and he could swap belts. "You must feel like the Blue Kangaroo here," she added, slapping her miniature mount on its broiling flank. "Boiled dry."

"You cahl de cyah de Blue Kangaroo?" he repeated, draping his coat over the door and mopping his forehead with what seemed to Mrs. Forsythe's discerning eye, a pure linen handkerchief.

"I do," she replied, forcing herself not to comment on the young man's slight but strange accent. "It's strictly a dry-clutch job, and acts like a castellated one. Let the pedal out, she races. Let it out three-thirty-seconds of an inch more and you're gone

from there. Always stopping to walk back and pick up your head. Snaps right off, you know. Carry a bottle of collodion and a couple of splints to put your head back on. Starve to death without a head to eat with. What brings you here?"

In answer he held out a yellow envelope, looking solemnly at her head and neck, then at the car, his face quiet, his eyes crinkling with a huge enjoyment.

Mrs. Forsythe glanced at the envelope. "Oh. Telegram. She's inside. I'll give it to her. Come on in and have a drink. It's hotter than the hinges of Hail Columbia, Happy Land. Don't go to wiping your feet like that! By jeepers, that's enough to give you an inferiority complex! Invite a man in, invite the dust on his feet, too. It's good honest dirt and we don't run to white broadlooms here. Are you afraid of dogs?"

The young man laughed. "Dahgs talk to me, ma'm."

She glanced at him sharply, opened her mouth to tell him he might just be taken at his word around here, then thought better of it. "Sit down," she ordered. She bustled up a foaming glass of beer and set it beside him. "I'll get her down to sign for the wire," she said. The man half lowered the glass into which he had been jowls-deep, began to speak, found he was alone in the room, laughed suddenly and richly, wiped off the mustache of suds and dove down for a new one.

Mrs. Forsythe grinned and shook her head as she heard the laughter, and went straight to Alistair's study. "Alistair!"

"Stop pushing me about the ductility of tungsten, Tiny! You know better than that. Figures are figures, and facts are facts. I think I see what you're trying to lead me to. All I can say is that if such a thing is possible, I never heard of any equipment that could handle it. Stick around a few years and I'll hire you a nuclear power plant. Until then, I'm afraid that—"

"Alistair!"

"—there just isn't . . . hm-m-m? Yes, Mother?"

"Telegram."

"Oh. Who from?"

"I don't know, being only one fortieth of one per cent as psychic as that doghouse Dunninger you have there. In other words, I didn't open it."

"Oh, Mum, you're silly! Of course you could have . . . oh well, let's have it."

"I haven't got it. It's downstairs with Discobolus Junior, who brought it. No one," she said ecstatically, "has a right to be so tanned with hair that color."

"What *are* you talking about?"

"Go on down and sign for the telegram and see for yourself. You will find the maiden's dream with his golden head in a bucket of suds, all hot and sweaty from his noble efforts in attaining this peak without spikes or alpenstock, with nothing but his pure heart and Western Union to guide him."

"This maiden's dream happens to be tungsten treatment," said Alistair with some irritation. She looked longingly at her worksheet, put down her pencil and rose. "Stay here, Tiny.

I'll be right back as soon as I have successfully resisted my conniving mother's latest scheme to drag my red hairing across some young buck's path to matrimony." She paused at the door. "Aren't you staying up here, Mum?"

"Get that hair away from your face," said her mother grimly. "I am not. I wouldn't miss this for the world. And don't pun in front of that young man. It's practically the only thing in the world I consider vulgar."

Alistair led the way down the stairs and through the corridor to the kitchen, with her mother crowding her heels, once fluffing out her daughter's blazing hair, once taking a swift tuck in the back of the girl's halter. They spilled through the door almost together. Alistair stopped and frankly stared.

For the young man had risen, and, still with the traces of beer foam on his modeled lips, stood with his jaws stupidly open, his head a little back, his eyes partly closed as if against a bright light. And it seemed as if everyone in the room forgot to breathe for a moment.

"Well!" Mrs. Forsythe exploded after a moment. "Honey, you've made a conquest. Hey—*you!* Chin up! Chest out!"

"I beg your humble pardon," muttered the young man; and the phrase seemed more a colloquialism than an affectation.

Alistair, visibly pulling herself together, said, "Mother! Please!" and drifted forward to pick up the telegram which lay on the kitchen table. Her mother knew her well enough to realize that her hands and her eyes were steady only by a powerful effort. Whether the effort was in control of annoyance, embarrassment or out-and-out biochemistry was a matter for later thought. At the moment she was enjoying it tremendously.

"Please wait," said Alistair coolly. "There may be an answer to this." The young man simply bobbed his head. He was still a little wall-eyed with the impact of seeing Alistair, as many a young man had been before. But there were the beginnings of his astonishing smile around his lips as he watched her rip the envelope open.

"Mother! Listen!

"ARRIVED THIS MORNING AND HOPE I CAN CATCH YOU AT HOME. OLD DEBBIL KILLED IN ACCIDENT BUT FOUND HIS MEMORY BEFORE HE DIED. HAVE INFORMATION WHICH MAY CLEAR UP THE MYSTERY—OR DEEPEN IT. HOPE I CAN SEE YOU FOR I DON'T KNOW WHAT TO THINK.

ALEC."

"How old is this tropical savage?" asked Mrs. Forsythe.

"He's not a savage and I don't know how old he is and I can't see what that has to do with it. I think he's about my age or a little older." She looked up, and her eyes were shining.

"Deadly rival," said Mrs. Forsythe to the messenger consolingly. "Rotten timing here, somewhere."

"I—" said the young man.

"Mother, we've got to fix something to eat. Do you suppose he'll be able to stay over? Where's my

EDD
CARTIER

green dress with the . . . oh, you wouldn't know. It's new."

"Then the letters weren't all about the dog," said Mrs. Forsythe, with a Cheshire grin.

"Mum, you're impossible! This is . . . is important. Alec is . . . is—"

Her mother nodded. "Important. That's all I was pointing out."

The young man said, "I—"

Alistair turned to him. "I do hope you don't think we're totally mad. I'm sorry you had such a climb." She went to the sideboard and took a quarter out of a sugar bowl. He took it gravely.

"Thank you, ma'm. If you don't min', I'll keep this piece of silver for the rest o' my everlahstin'."

"You're wel— *What?*"

The young man seemed to get even taller. "I greatly appreciate your hospitality, Mrs. Forsythe. I have you at a disadvantage, ma'm, and one I shall correct." He put a crooked forefinger between his lips and blew out an incredible blast of sound.

"*Tiny!*" he roared. "Here to me, dahg, an' mek me known!"

There was a roar from upstairs, and Tiny came tumbling down, scrabbling wildly as he took the turn at the foot of the stairs and hurtled over the slick flooring to crash joyfully into the young man.

"Ah, you beast," crooned the man, cuffing the dog happily. His accent thickened. "You thrive yourself here wid de lady-dem, you gray-yut styoupid harse. You glad me, mon, you glad me." He grinned at the two astonished women. "Forgive me," he said as he pummeled Tiny, pulled his ears, shoved him away and caught him by the jaws. "For true, I couldn't get in the first word with Mrs. Forsythe, and after I couldn't help meself. Alec my name is, and the telegram I took from the true messenger, finding him sighing and sweating at the sight of the hill there."

Alistair covered her face with her hands and said "Oooh." Mrs. Forsythe whooped with laughter. She found her voice and demanded, "Young man, what is your last name?"

"Sundersen, ma'm."

"Mother! Why did you ask him that?"

"For reasons of euphony," said Mrs. Forsythe with a twinkle. Alexander Sundersen. Very good. Alistair—"

"Stop! Mum, don't you dare—"

"I was going to say, Alistair, if you and our guest will excuse me, I'll have to get back to my knitting." She went to the door.

Alistair threw an appalled look at Alec and cried, "Mother! What are you knitting?"

"My brows, darling. See you later," Mrs. Forsythe chuckled, and went out.

It took almost a week for Alec to get caught up with the latest developments in Tiny, for he got the story in the most meticulous detail. There never seemed to be enough time to get an explanation or an anecdote in, so swiftly did the time fly when he and Alistair were together. Some of these days he went into the city with Alistair in the morning, and spent the day in buying tools and equip-

ment for his estate. New York was a wonder city to him — he had been there only once before—and Alistair found herself getting quite possessive about the place, showing it off like the contents of a jewel box. And then Alec stayed at the house a couple of days. He endeared himself forever to Mrs. Forsythe by removing, cleaning, and refacing the clutch on the Blue Kangaroo, simplifying the controls on the gas refrigerator so it could be defrosted without a major operation, and putting a building-jack under the corner of the porch which threatened to sag.

And the sessions with Tiny were resumed and intensified. At first he seemed a little uneasy when Alec joined one of them, but within half an hour he relaxed. Thereafter, more and more he would interrupt Alistair to turn to Alec. Although he apparently could not understand Alec's thoughts at all, he seemed to comprehend perfectly when Alec spoke to Alistair. And within a few days she learned to accept these interruptions, for they speeded up the research they were doing. Alec was almost totally ignorant of the advanced theory with which Alistair worked, but his mind was clear, quick, and very direct. He was no theorist, and that was good. He was one of those rare grease-monkey geniuses, with a grasp that amounted to intuition concerning the laws of cause and effect. Tiny's reaction to this seemed to be approval. At any rate, the occasions when Alistair lost the track of what Tiny was after, happened less and less frequently. Alec instinctively knew just how far to go back, and then how to spot the turning at which they had gone astray. And bit by bit, they began to identify what it was that Tiny was after. As to why—and how—he was after it, Alec's experience with old Debbil seemed a clue. It certainly was sufficient to keep Alec plugging away at a possible solution to the strange animal's stranger need.

"It was down at the sugar mill," he told Alistair, after he had become fully acquainted with the incredible dog's actions, and they were trying to determine the why and the how. "He called me over to the chute where cane is loaded into the conveyors.

" 'Bahss,' he told me, 'dat t'ing dere, it not safe, sah.' And he pointed through the guard over the bullgears that drove the conveyor. Great big everlahstin' teeth it has, Miss Alistair, a full ten inches long, and it whirlin' to the drive pinion. It's old, but strong for good. Debbil, what he saw was a bit o' play on the pinion shaf'.

" 'Now, you're an old fool,' I told him.

" 'No, bahss,' " he says. 'Look now, sah, de t'ing wit' de teet'—dem, it not safe, sah. I mek you see,' and before I could move meself or let a thought trickle, he *opens* the guard up and thrus' his han' inside! Bull gear, it run right up his arm and nip it off, neat as ever, at the shoulder. I humbly beg your pardon, Miss Alistair."

"G-go on," said Alistair, through her handkerchief.

"Well, sir, old Debbil was an idiot for true, and he only died the way

he lived, rest him. He was old and he was all eaten out with malaria and elephantiasis and the like, that not even Dr. Thetford could save him. But a strange thing happened. As he lay dyin', with the entire village gathered roun' the door whisperin' plans for the wake, he sent to tell me come quickly. Down I run, and for the smile on his face I glad him when I cross the doorstep."

As Alec spoke, he was back in the Spanish-wall hut, with the air close under the palm-thatch roof, and the glare of the pressure lantern set on the tiny window ledge to give the old man light to die by. Alec's accent deepened: " 'How you feel, mon?' I ahsk him. 'Bahss, I'm a dead man now, but I got a light in mah hey-yud.'

" 'Tell me, then, Debbil.'

" 'Bahss, de folk-dem say, ol' Debbil, him cyahn't remembah de taste of a mango as he t'row away de skin. Him cyahn't remembah his own house do he stay away t'ree day.'

" 'Loose talk, Debbil.'

" 'True talk, Bahss. Foh de Lahd give me a leaky pot fo' hol' ma brains. But Bahss, I do recall one t'ing now, bright an' clear, and you must know. Bahss, de day I go up the wahtah line, I see a great jumbee in de stones of de Gov'nor Palace dere.' "

"What's a Jumbee?" asked Mrs. Forsythe.

"A ghost, ma'm. The Crucians carry a crawlin' heap of superstitions. Tiny! What eats you, mon?"

Tiny growled again. Alec and Alistair exchanged a look. "He doesn't want you to go on."

"Listen carefully. I want him to get this. I am his friend. I want to help you help him. I realize that he wants as few people as possible to find out about this thing. I will say nothing to anybody unless and until I have his permission."

"Well, Tiny?"

The dog stood restlessly, swinging his great head from Alistair to Alec. Finally he made a sound like an audible shrug, then turned to Mrs. Forsythe.

"Mother's part of me," said Alistair firmly. "That's the way it's got to be. No alternative." She leaned forward. "You can't talk to us. You can only indicate what you want said and done. I think Alec's story will help us to understand what you want, and help you to get it more quickly. Understand?"

Tiny gazed at her for a long moment, said *"Whuff!"* and lay down with his nose between his paws and his eyes fixed on Alec.

"I think that's the green light," said Mrs. Forsythe, "and I might add that most of it was due to my daughter's conviction that you're a wonderful fellow."

"Mother!"

"Well, pare me down and call me Spud! They're *both* blushing!" said Mrs. Forsythe blatantly.

"Go on, Alec," choked Alistair.

"Thank you. Old Debbil told me a fine tale of the things he had seen at the ruins. A great beast, mind you, with no shape at all, and a face ugly to drive you mad. And about the beast was what he called a 'feelin' good'. He said it was a miracle, but he feared nothing. 'Wet it was,

Bahss, like a slug, an' de eye it have is whirlin' an' shakin', an' I standin' dar feelin' like a bride at de altar step an' no fear in me.' Well, I thought the old man's mind was wandering, for I knew he was touched. But the story he told was *that* clear, and never a simple second did he stop to think. Out it all came like a true thing.

"He said that Tiny walked to the beast, and that it curved over him like an ocean wave. It closed over the dog, and Debbil was rooted there the livelong day, still without fear, and feelin' no smallest desire to move. He had no surprise at all, even at the thing he saw restin' in the thicket among the old stones.

"He said it was a submarine, a mighty one as great as the estate house and with no break nor mar in its surface but for the glass part let in where the mouth is on a shark.

"And then when the sun begun to dip, the beast gave a shudderin' heave and rolled back, and out walked Tiny. He stepped up to Debbil and stood. Then the beast began to quiver and shake, and Debbil said the air aroun' him heavied with the work the monster was doing, tryin' to talk. A cloud formed in his brain, and a voice swept over him. 'Not a livin' word, Bahss, nor a sound at all. But it said to forget. It said to leave dis place and forget, sah.' And the last thing old Debbil saw as he turned away was the beast slumping down, seeming all but dead from the work it had done to speak at all. 'An' de cloud leave in mah hey-yud, Bahss, f'om dat time onward. I'm a dead man now, Bahss, but de cloud gone and Debbil know de story.'" Alec leaned back and looked at his hands. "That was all. This must have happened about fifteen months pahst, just before Tiny began to show his strange stripe." He drew a deep breath and looked up. "Maybe I'm gullible. But I knew the old man too well. He never in this life could invent such a tale. I troubled myself to go up to the Governor's Palace after the buryin'. I might have been mistaken, but something big had lain in the deepest thicket, for it was crushed into a great hollow place near a hundred foot long. Well, there you are. For what it's worth, you have the story of a superstitious an' illiterate old man, at the point of death by violence and many years sick to boot."

There was a long silence, and at last Alistair threw her lucent hair back and said, "It isn't Tiny at all. It's a . . . a thing outside Tiny." She looked at the dog, her eyes wide. "And I don't even mind."

"Neither did Debbil, when he saw it," said Alec gravely.

Mrs. Forsythe snapped, "What are we sitting gawking at each other for? Don't answer; I'll tell you. All of us can think up a story to fit the facts, and we're all too self-conscious to come out with it. Any story which fit those facts would really be a killer."

"Well said," Alec grinned. "Would you like to tell us your idea?"

"Silly boy," muttered Alistair.

"Don't be impertinent, child. Of course I'd like to tell you, Alec. I think that the good Lord, in His infinite wisdom, has decided that it was

about time for Alistair to come to her senses, and, knowing that it would take a quasi-scientific miracle to do it, dreamed up this—"

"Some day," said Alistair icily, "I'm going to pry you loose from your verbosity and your sense of humor in one fell swoop."

Mrs. Forsythe grinned. "There is a time for jocularity, kidlet, and this is it. I hate solemn people solemnly sitting around being awed by things. What do you make of all this, Alec?"

Alec pulled his ear and said, "I vote we leave it up to Tiny. It's his show. Let's get on with the work, and just keep in mind what we already know."

And to their astonishment, Tiny stumped over to Alec and licked his hand.

The blowoff came six weeks after Alec's arrival. (Oh, yes! he stayed six weeks, and longer! it took some fiendish cogitation for him to think of enough legitimate estate business which had to be done in New York to keep him that long; but after that he was so much one of the family that he needed no excuse.) He had devised a code system for Tiny, so that Tiny could add something to their conversations. His point: "Here he sits, ma'am, like a fly on the wall, seeing everything and hearing everything and saying not a word. Picture it for yourself, and you in such a position, full entranced as you are with the talk you hear." And for Mrs. Forsythe particularly, the mental picture was altogether too vivid! It was so well presented that Tiny's research went by the board for four days while they devised the code. They had to give up the idea of a glove with a pencil-pocket in it, with which Tiny might write a little, or any similar device. The dog was simply not deft enough for such meticulous work; and besides, he showed absolutely no signs of understanding any written or printed symbolism. Unless, of course, Alistair thought about it . . .

Alec's plan was simple. He cut some wooden forms—a disk, a square, a triangle to begin with. The disk signified "yes", or any other affirmation, depending on the context. The square was "no" or any negation; and the triangle indicated a question or a change in subject. The amount of information Tiny was able to impart by moving from one to another of these forms was astonishing. Once a subject for discussion was established, Tiny would take up a stand between the disk and the square, so that all he had to do was to swing his head to one side or the other, to indicate a "yes" or a "no". No longer were there those exasperating sessions in which the track of his research was lost while they backtrailed to discover where they had gone astray. The conversations ran like this:

"Tiny, I have a question. Hope you won't think it too personal. May I ask it?" That was Alec, always infinitely polite to dogs. He had always recognized their innate dignity.

Yes, the answer would come, as Tiny swung his head over the disk.

"Were we right in assuming that you, the dog, are not communicating with us: that you are the medium?"

Tiny went to the triangle. "You want to change the subject?"

Tiny hesitated, then went to the square. *No.*

Alistair said, "He obviously wants something from us before he will discuss the question. Right, Tiny?"

Yes.

Mrs. Forsythe said, "He's had his dinner, and he doesn't smoke. I think he wants us to assure him that we'll keep his secret."

Yes.

"Good. Alec, you're wonderful," said Alistair. "Mother, stop beaming! I only meant—"

"Leave it at that, child! Any qualification will spoil it for the man!"

"Thank you, ma'm," said Alec gravely, with that deep twinkle of amusement around his eyes. Then he turned back to Tiny. "Well, what about it, sah? Are you a superdog?"

No.

"Who . . . no, he can't answer that. Let's go back a bit. Was old Debbil's story true?"

Yes.

"Ah." They exchanged glances. "Where is this — monster? Still in St. Croix?"

No.

"Here?"

Yes.

"You mean here, in this room, or in the house?"

No.

"Nearby, though?"

Yes.

"How can we find out just where, without mentioning the countryside item by item?" asked Alistair.

"I know," said Mrs. Forsythe. "Alec, according to Debbil, that 'submarine' thing was pretty big, wasn't it?"

"That it was, ma'm."

"Good. Tiny, does he . . . it . . . have the ship here, too?"

Yes.

Mrs. Forsythe spread her hands. "That's it, then. There's only one place around here where you could hide such an object." She nodded her head at the west wall of the house.

"The river!" cried Alistair. "That right, Tiny?"

Yes. And Tiny went immediately to the triangle.

"Wait!" said Alec. "Tiny, beggin' your pardon, but there's one more question. Shortly after you took passage to New York, there was a business with compasses, where they all pointed to the west. Was that the ship?"

Yes.

"In the water?"

No.

"Why," said Alistair, "this is pure science fiction! Alec, do you ever get science fiction in the tropics?"

"Ah, Miss Alistair, not often enough, for true. But well I know it. The spaceships are old Mother Goose to me. But there's a difference here. For in all the stories I've read, when a beast comes here from space, it's to kill and conquer; and yet—and I don't know why—I know that this one wants nothing of the sort. More, he's out to do us good."

"I feel the same way," said Mrs. Forsythe thoughtfully. "It's sort of a protective cloud which seems to surround us. Does that make sense to you, Alistair?"

"I know it from 'way back," said Alistair with conviction. She looked at the dog thoughtfully. "I wonder why he . . . it . . . won't show itself. And why it can communicate only through me. And why me?"

"I'd say, Miss Alistair, that you were chosen because of your metallurgy. As to why we never see the beast— Well, it knows best. Its reason must be a good one."

Day after day, and bit by bit, they got and gave information. Many things remained mysteries; but strangely, there seemed no real need to question Tiny too closely. The atmosphere of confidence, of good will that surrounded them made questions seem not only unnecessary but downright rude.

And day by day, and little by little, a drawing began to take shape under Alec's skilled hands. It was a casting, with a simple enough external contour, but inside it contained a series of baffles and a chamber. It was designed, apparently, to support and house a carballoy shaft. There were no openings into the central chamber except those taken by the shaft. The shaft turned: *something* within the chamber apparently drove it. There was plenty of discussion about it.

"Why the baffles?" moaned Alistair, palming all the neatness out of her flaming hair. "Why carballoy? And in the name of Nemo, why tungsten?"

Alec stared at the drawing for a long moment, then suddenly clapped a hand to his head. "Tiny! Is there radiation inside that housing? I mean, hard stuff?"

Yes.

"There you are, then," said Alec. "Tungsten to shield the radiation. A

casting for uniformity. The baffles to make a meander out of the shaft openings — see, the shaft has plates turned on it to fit between the baffles."

"And nowhere for anything to go in, nowhere for anything to come out — except the shaft, of course— and besides, you can't cast tungsten that way! Maybe Tiny's monster can, but we can't. Maybe with the right flux, and with enough power— but that's silly. Tungsten won't cast."

"And we cahn't build a spaceship. There must be a way!"

"Not with today's facilities, and not with tungsten," said Alistair. "Tiny's ordering it from us the way we would order a wedding cake at the corner bakery."

"What made you say 'wedding cake'?"

"You, too? Alec? Don't I get enough of that from Mother?" But she smiled all the same. "But about the casting—it seems to me that our mysterious friend is in the position of a radio fiend who understands every part of his set, how it's made, how and why it works. Then a tube blows, and he finds he can't buy one. He has to make one if he gets one at all. Apparently old Debbil's beast is in that kind of a spot. What about it, Tiny? Is your friend short a part which he understands but has never built before?"

Yes.

"And he needs it to get away from Earth?"

Yes.

Alec asked, "What's the trouble? Can't get escape velocity?"

Tiny hesitated, and then went to the triangle. "Either he doesn't want to talk about it, or the question doesn't quite fit the situation," said Alistair. "It doesn't matter. Our main problem is the casting. It just can't be done. Not by anyone on this planet, as far as I know; and I think I know. It has to be tungsten, Tiny?"

Yes.

"Tungsten, for what?" asked Alec. "Radiation shield?"

Yes.

He turned to Alistair. "Isn't there something just as good?"

She mused, staring at his drawing. "Yes, several things," she said thoughtfully. Tiny watched her, moveless. He seemed to slump as she shrugged dispiritedly and said, "But not anything with walls as thin as that. A yard or so of lead might do it, and have something like the mechanical strength he seems to want, but it would obviously be too big. Beryllium—" At the word, Tiny went and stood right on top of the square—a most emphatic *no.*

"How about an alloy?" Alec asked.

"Well, Tiny?"

Tiny went to the triangle. Alistair nodded. "You don't know. I can't think of one. I'll take it up with Dr. Nowland. Maybe—"

The following day Alec stayed home and spent the day arguing cheerfully with Mrs. Forsythe and building a grape arbor. It was a radiant Alistair who came home that evening. "Got it! Got it!" she caroled as she danced in. "Alec! Tiny— come on!"

They flew upstairs to the study. Without removing the green

"beanie" with the orange feather that so nearly matched her hair, Alistair hauled out four reference books and began talking animatedly. "Auric molybdenum, Tiny! What about that? Gold and molyb III should do it! Listen!" And she launched forth into a spatter of absorption data, Greek-letter formulae, and strength of materials comparisons which quite made Alec's head swim. He sat watching her without listening. Increasingly, this was his greatest pleasure.

When Alistair was quite through, Tiny walked away from her and lay down, gazing off into space.

"Well, strike me!" said Alec. "Look yonder, Miss Alistair. The very first time I ever saw him thinking something over."

"*Sh-h!* Don't disturb him, then. If that *is* the answer, and if he never thought of it before, it will take some figuring out. There's no knowing what fantastic kind of science he's comparing it with."

"I see the point. Like . . . well, suppose we crashed a plane in the Brazilian jungle, and needed a new hydraulic cylinder on the landing gear. Now, then, one of the natives shows us ironwood, and it's up to us to figure out if we can make it serve."

"That's about it," breathed Alistair. "I—" She was interrupted by Tiny, who suddenly leaped up and ran to her, kissing her hands, committing the forbidding enormity of putting his paws on her shoulders, running back to the wooden forms and nudging the disk, the *yes* symbol. His tail was going like a metronome without its pendulum. Mrs. Forsythe came in in the midst of all this rowdiness and demanded:

"What goes on? Who made a dervish out of Tiny? What have you been feeding him? Don't tell me. Let me . . . you don't mean you've solved his problem for him? What are you going to do—buy him a pogo stick?"

"Oh, Mum! We've got it! An alloy of molybdenum and gold! I can get it alloyed and cast in no time!"

"Good, honey—good. You going to cast the whole thing?" She pointed to the drawing.

"Why, yes."

"Humph!"

"Mother! Why, if I may ask, do you 'humph' in that tone of voice?"

"You may ask. Chicken, who's going to pay for it?"

"Why, that will . . . I—oh. *Oh!*" she said, aghast, and ran to the drawing. Alec came and looked over her shoulder. She figured in the corner of the drawing, oh-ed once again, and sat down weakly.

"How much?" asked Alec.

"I'll get an estimate in the morning," she said faintly. "I know plenty of people. I can get it at cost—maybe." She looked at Tiny despairingly. He came and laid his head against her knee, and she pulled at his ears. "I won't let you down, darling," she whispered.

She got the estimate the next day. It was a little over thirteen thousand dollars.

Alistair and Alec stared blankly at each other and then at the dog.

"Maybe you can tell us where we

can raise that much money?" said Alistair, as if she expected Tiny to whip out a wallet.

Tiny whimpered, licked Alistair's hand, looked at Alec, and then lay down.

"Now what?" mused Alec.

"Now we go and fix something to eat," said Mrs. Forsythe, moving toward the door. The others were about to follow, when Tiny leaped to his feet and ran in front of them. He stood in the doorway and whimpered. When they came closer, he barked.

"*Shh!* What is it, Tiny? Want us to stay here a while?"

"Say! Who's the boss around here?" Mrs. Forsythe wanted to know.

"He is," said Alec, and he knew he was speaking for all of them. They sat down, Mrs. Forsythe on the studio couch, Alistair at her desk, Alec at the drawing table. But Tiny seemed not to approve of the arrangement. He became vastly excited, running to Alec, nudging him hard, dashing to Alistair, taking her wrist very gently in his jaws and pulling gently toward Alec.

"What is it, fellow?"

"Seems like matchmaking to me," remarked Mrs. Forsythe.

"Nonsense, Mum!" said Alistair, coloring. "He wants Alec and me to change places, that's all."

Alec said, "Oh!" and went to sit beside Mrs. Forsythe. Alistair sat at the drawing table. Tiny put a paw up on it, poked at the large tablet of paper. Alistair looked at him curiously, then tore off the top sheet. Tiny nudged a pencil with his nose.

Then they waited. Somehow, no one wanted to speak. Perhaps no one could, but there seemed to be no reason to try. And gradually a tension built up in the room. Tiny stood stiff and rapt in the center of the room. His eyes glazed, and when he finally keeled over limply, no one went to him.

Alistair picked up the pencil slowly. Watching her hand, Alec was reminded of the movement of the pointer on a ouija board. The pencil traveled steadily, in small surges, to the very top of the paper and hung there. Alistair's face was quite blank.

After that no one could say what happened, exactly. It was as if their eyes had done what their voices had done. They could see, but they did not care to. And Alistair's pencil began to move. Something, somewhere, was directing her mind—not her hand. Faster and faster her pencil flew, and it wrote what was later to be known as the Forsythe Formulae.

There was no sign then, of course, of the furor that they would cause, of the millions of words of conjecture which were written when it was discovered that the girl who wrote them could not possibly have had the mathematical background to have written them. They were understood by no one at first, and by very few people ever. Alistair certainly did not know what they meant.

An editorial in a popular magazine came startlingly close to the true nature of the Formulae when it said, "The Forsythe Formulae, which describe what the Sunday supplements call the 'Something-for-Nothing Clutch', and the drawing which ac-

companies them, signify little to the layman. As far as can be determined, the Formulae are the description and working principles of a device. It appears to be a power plant of sorts, and if it is ever understood, atomic power will go the way of gaslights.

"A sphere of energy is enclosed in a shell made of neutron-absorbing material. This sphere has inner and outer 'layers'. A shaft passes through the sphere. Apparently a magnetic field must be rotated about the outer casing of the device. The sphere of energy aligns itself with this field. The inner sphere rotates with the outer one, and has the ability to turn the shaft. Unless the mathematics used are disproved — and no one seems to have come anywhere near doing that, unorthodox as they are— the aligning effect between the rotating field and the two concentric spheres, as well as the shaft, is quite independent of any load. In other words, if the original magnetic field rotates at three thousand rpm, the shaft will rotate at three thousand rpm, even if there is only a sixteenth horsepower turning the field while there is a ten thousand braking stress on the shaft.

"Ridiculous? Perhaps. And perhaps it is no more so than the apparent impossibility of fifteen watts of energy pouring into the antenna of a radio station, and nothing coming down. The key to the whole problem is in the nature of those self-contained spheres of force inside the shell. Their power is apparently inherent, and consists of an ability to align, just as the useful property of steam is an ability to expand. If, as is suggested by Reinhardt in his 'Usage of the Symbol β in the Forsythe Formulae' these spheres are nothing but stable concentrations of pure binding energy, we have here a source of power beyond the wildest dreams of mankind. And whether or not we succeed in building such devices, it cannot be denied that whatever their mysterious source, the Forsythe Formulae are an epochal gift to several sciences, including, if you like, the art of philosophy."

After it was over, and the Formulae written, the terrible tension lifted. The three humans sat in their happy coma, and the dog lay senseless on the rug. Mrs. Forsythe was the first to move, standing up abruptly. "Well!" she said.

It seemed to break a spell. Everything was quite normal. No hangovers, no sense of strangeness, no fear. They stood looking wonderingly at the mass of minute figures.

"I don't know," murmured Alistair, and the phrase covered a world of meaning. Then, "Alec—that casting. We've got to get it done. We've just *got* to, no matter what it costs us!"

"I'd like to," said Alec. "Why do we *have* to?"

She waved toward the drawing table. "We've been given that."

"You don't say!" said Mrs. Forsythe. "And what is *that?*"

Alistair put her hand to her head, and a strange, unfocused look came into her eyes. That look was the only part of the whole affair that

ever really bothered Alec. It was a place she had gone to, a little bit; and he knew that no matter whatever happened, he would never be able to go there with her.

She said, "He's been . . . talking to me, you know. You do know that, don't you? I'm not guessing, Alec —Mum."

"I believe you, chicken," her mother said softly. "What are you trying to say?"

"I got it in concepts. It isn't a thing you can repeat, really. But the idea is that he couldn't give us any *thing*. His ship is completely functional, and there isn't anything he can exchange for what he wants us to do. But he has given us something of great value—" Her voice trailed off; she seemed to listen to something for a moment. "Of value in several ways. A new science, a new approach to attack the science. New tools, new mathematics."

"But what is it? What can it do? And how is it going to help us pay for the casting?" asked Mrs. Forsythe.

"It can't, immediately," said Alistair decisively. "It's too big. We don't even know what it is. Why are you arguing? Can't you understand that he can't give us any gadgetry? That we haven't his techniques, materials, and tools, and so we couldn't make any actual machine he suggested? He's done the only thing he can; he's given us a new science, and tools to take it apart."

"That I know," said Alec gravely. "Well indeed. I felt that. And I . . I trust him. Do you, ma'm?"

"Yes, of course. I think he's—people. I think he has a sense of humor and a sense of justice," said Mrs. Forsythe firmly. "Let's get our heads together. We ought to be able to scrape it up some way. And why shouldn't we? Haven't we three got something to talk about for the rest of our lives?"

And their heads went together.

This is the letter that arrived two months later in St. Croix.

Honey-lamb,

Hold on to your seat. It's all over.

The casting arrived. I missed you more than ever, but when you have to go —and you know I'm glad you went! Anyway, I did as you indicated, through Tiny, before you left. The men who rented me the boat and ran it for me thought I was crazy, and said so. Do you know that once we were out on the river with the casting, and Tiny started whuffing and whimpering to tell me we were on the right spot, and I told the men to tip the casting over the side, they had the collosal nerve to insist on opening the crate? Got quite nasty about it. Didn't want to be a party to any dirty work. It was against my principles, but I let them, just to expedite matters. They were certain there was a body in the box! When they saw what it was, I was going to bend my umbrella over their silly heads, but they looked so funny! I couldn't do a thing but roar with laughter. That was when the man said I was crazy.

Anyhow, over the side it went, into the river. Made a lovely splash. And about a minute later, I got the loveliest feeling —I wish I could describe it to you. I was sort of overwhelmed by a feeling of utter satisfaction, and gratitude, and . . . oh, I don't know. I just felt *good*, all over. I looked at Tiny, and he was trembling. I think he felt it, too. I'd call it a thank you, on a grand psychic scale. I think you can rest assured that Tiny's monster got what it wanted.

But that wasn't the end of it. I paid off the boatmen, and started up the bank. Something made me stop, and wait, and then go back to the water's edge.

It was early evening, and very still. I was under some sort of a compulsion —not an unpleasant thing, but an unbreakable one. I sat down on the river wall and watched the water. There was no one around—the boat had left—except one of those snazzy Sunlounge cruisers anchored a few yards out. I remember how still it was, because there was a little girl playing on the deck of the yacht, and I could hear her footsteps as she ran about.

Suddenly I noticed something in the water. I suppose I should have been frightened, but somehow I wasn't at all. Whatever the thing was, it was big and gray and slimy and quite shapeless. And somehow, it seemed to be the source of this aura of well-being and protectiveness that I felt. It was staring at me. I knew it was before I saw that it had an eye—a big one, with something whirling inside of it . . . I don't know. I wish I could write. I wish I had the power to tell you what it was like. I know that it was, by human standards, infinitely revolting. If this was Tiny's monster, I could understand its being sensitive to the revulsion it might cause. And wrongly, for I felt to the core that the creature was good.

It winked at me. I don't mean blink. It winked. And then everything happened at once.

The creature was gone, and in seconds there was a disturbance in the water by the yacht. Something gray and wet reached up out of the river and I saw it was going for that little girl. Only a tyke—about three, she was. Red hair just like yours. And it thumped that child in the small of the back just enough to knock her over—into the river.

And can you believe it? I just sat there watching, and said never a word! It didn't seem right to me that that baby could be struggling in the water. *But it didn't seem wrong either!*

Well, before I could get my wits together, Tiny was off the wall like a hairy

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bullet and streaking through the water. I have often wondered why his feet are so big; I never will again. The hound is build like the lower half of a paddle wheel! In two shakes he had the baby by the scruff of the neck and was bringing her back to me. No one had seen that child get pushed, Alistair! No one but me. But there was a man on the yacht who must have seen her fall. He was all over the deck roaring orders and getting in the way of things, and by the time he had his wherry in the water, Tiny had reached me with the little girl. She wasn't frightened either—she thought it was a grand joke! Wonderful youngster.

So the man came ashore, all gratitude and tears, and wanted to gold-plate Tiny or something. Then he saw me. "That your dog?" I said it was my daughter's. She was in St. Croix on her honeymoon. Before I could stop him he had a checkbook out and was scratching away at it. He said he knew my kind. Said he knew I'd never accept a thing for myself, but wouldn't refuse something for my daughter. I enclose the check. Why he picked a sum like thirteen thousand, I'll never know. Anyhow, I know it'll be a help to you. Since the money really comes from Tiny's monster, I suppose I can confess that getting Alec to put up the money, even though he would have to clean out his savings and mortgage his estate, would be a good idea if he were one of the family, because then he'd have you to help him make it all back again—that was all my idea. Sometimes, though, watching you, I wonder if I really had to work so all-fired hard to get you nice people married to each other.

Well, I imagine that closes the business of Tiny's monster. There are a lot of things we'll probably never know. I can guess some things, though. It could communicate with a dog, but not with a human, unless it half-killed itself trying. Apparently a dog is telepathic with humans to a degree, though it probably doesn't understand a lot of what it gets. I don't speak French, but I could probably transcribe French phonetically well enough so a Frenchman could read it. Tiny was transcribing that way. The monster could "send" through him, and control him completely. It no doubt indoctrinated the dog—if I can use the term—the day old Debbil took him up the waterline. And when the monster caught, through Tiny, the mental picture of you when Dr. Schwellenbach mentioned you, it went to work through the dog to get you working on its problem. Mental pictures—that's probably what the monster used. That's how Tiny could tell one book from another, without being able ot read. You visualize everything you think about. What do you think? *I* think that mine's as good a guess as any.

You might be amused to learn that last night all the compasses in this neighborhood pointed west for a couple of hours! Bye now, chillun. Keep on being happy.

Love and love, and a kiss for Alec,
Mum.

P. S. Is St. Croix really a nice place to honeymoon? Jack—he's the fellow who signed the check—is getting very sentimental. He's very like your father. A widower, and—Oh, I don't know. Says fate, or something, brought us together. Said he hadn't planned to take a trip upriver with the baby, but something drove him to it. He can't imagine why he anchored just there. Seemed a good idea at the time. Maybe it was fate. He is very sweet. I wish I could forget that wink I saw in the water.

THE END.

* * * * * * * * *

JESTING PILOT

BY LEWIS PADGETT

Illustrated by Orban

***Under** normal circumstances, a man must face reality to be a sane, well-balanced citizen. But not in that city! Any man who faced and understood the reality of the place was insane!*

The city screamed. It had been screaming for six hundred years. And as long as that unendurable scream continued—the city was an efficient unit.

"You're getting special treatment," Nehral said, looking across the big, bare, silent room to where young Fleming sat on the cushioned seat. "Normally you wouldn't have graduated to Control for another six months, but something's come up. The others think a fresh viewpoint might help. And you're elected, since you're the oldest acolyte."

"Britton's older than I am," Fleming said. He was a short, heavy, red-haired boy with an unusual sensitivity conditioned into his blunt features. Utterly relaxed, he sat waiting.

"Physiological age doesn't mean anything. The civilization-index is more important. And the empathy level. You're seventeen, but you're emotionally mature. On the other hand, you're not—set. You haven't been a Controller for years. We think you may have some fresh angles that can help us."

"Aren't fresh angles undesirable?"

Nehral's thin, tired face twisted

into a faint smile. "There's been debate about that. A culture is a living organism and it can't exist in its own waste products. Not indefinitely. But we don't intend to remain isolated indefinitely."

"I didn't know that," Fleming said.

Nehral studied his fingertips. "Don't get the idea that we're the masters. We're servants, far more so than the citizens. We've got to follow the plan. And we don't know all the details of the plan. That was arranged purposely. Some day the Barrier will lift. Then the city won't be isolated any longer."

"But — outside!" Fleming said, a little nervously. "Suppose—"

Nehral said, "Six hundred years ago the city was built and the Barrier created. The Barrier's quite impassable. There's a switch—I'll show it to you sometime—that's useless at present. Its purpose is to bring the Barrier into existence. But no one knows how to destroy the Barrier. One theory is that it can't be destroyed until its half-life is run, and the energy's reached a sufficiently low level. Then it blinks out automatically."

"When?"

Nehral shrugged. "Nobody knows that either. Tomorrow, or a thousand years from now. Here's the idea. The city was isolated for protection. That meant—complete isolation. Nothing—*nothing at all*—can pass the Barrier. So we're safe. When the Barrier goes, we can see what's happened to the rest of the world. If the danger's gone, we can colonize. If it hasn't, we pull the switch again, and we're safe behind the Barrier for another indefinite period."

Danger. The earth had been too big, and too full of people. Archaic mores had prevailed. The new science had plunged on, but civilization had lagged fatally. In those days many plans had been proposed. Only one had proved practicable. Rigid control—thorough utilization of the new power—and unbreakable armor. So the city was built and isolated by the Barrier, at a time when all other cities were falling . . .

Nehral said, "We know the danger of *status quo*. New theories, new experiments aren't forbidden. Far from it. Some of them can't be studied now, a great many of them. But records are kept. That reference library will be available when the Barrier's lifted. Meanwhile, the city's a lifeboat. This part of the human race has to survive. That's the main concern. You don't study physics in a lifeboat. You try to survive. After you've reached land, you can go to work again. But now—"

The other cities fell, and the terror roared across the earth, six hundred years ago. It was an age of genius and of viciousness. The weapons of the gods were at last available. The foundations of matter ripped screaming apart as the weapons were used. The lifeboat rode a typhoon. The Ark breasted a deluge.

In other words, one thing led to another—until the planet shook.

"First the builders thought the Barrier alone would be enough. The city, of course, had to be a self-contained unit. That was difficult. A

human being isn't. He has to get food, fuel—from the air, from plants and animals. The solution lay in creating all the necessities within the city. But then matters got worse. There was germ warfare and germ mutations. There were the chain reactions. The atmosphere itself, under the constant bombardment—"

More and more complicated grew the Ark.

"So they built the city as it had to be built, and then they found that it would be—uninhabitable."

Fleming tilted back his head. Nehral said, "Oh, we're shielded. We're specialized. For we're the Controllers."

"Yes, I know. But I've wondered. Why can't the citizens—"

"Be shielded as we are? Because they're to be the survivors. We're important only till the Barrier lifts. After that, we'll be useless, away from the lifeboat. In a normal world, we have no place. But now and here, as Controllers of the city, we *are* important. We serve."

Fleming stirred uneasily.

Nehral said, "It will be difficult for you to conceive this. You have been specially conditioned since before your birth. You never knew—none of us ever knew — normal existence. You are deaf, dumb, and blind."

The boy caught a little of the meaning. "That means—?"

"Certain senses the citizens have, because they'll be needed when the Barrier lifts. We can't afford to have them, under the circumstances The telepathic sense is substituted. I'll tell you more about that later. Right now I want you to concentrate on the problem of Bill Norman. He's a citizen."

Nehral paused. He could feel the immense weight of the city above him, and it seemed to him that the foundations were beginning to crumble . . .

"He's getting out of control," Nehral said flatly.

"But I'm not important," Bill Norman said.

They were dancing. Flickering, quiet lights beat out from the Seventh Monument, towering even above the roof garden where they were. Far overhead was the gray emptiness of the Barrier. The music was exciting. Mia's hand crept up and ruffled the back of his neck.

"You are to me," she said. "Still, I'm prejudiced."

She was a tall, slim, dark girl, sharp contrast to Norman's blond hugeness. His faintly puzzled blue eyes studied her.

"I'm lucky. I'm not so sure you are, Mia."

The orchestra reached a rhythmic climax; brass hit a low, nostalgic note, throbbingly sustained. Norman moved his big shoulders uneasily and turned toward the parapet, towing Mia beside him. They walked in silence through the crowd, to a walled embrasure where they were alone, in a tiny vantage-point overlooking the city.

Mia stole occasional glances at the man's troubled face. He was looking at the Seventh Monument, crowned with light, and beyond it to the Sixth, and, smaller in the distance,

the Fifth — each a memorial to one of the Great Eras of man's history.

But the city—

There had never been a city like it in all the world. For no city before had ever been built for man. Memphis was a towered colossus for the memory of kings; Baghdad was a sultan's jewel; they were stately pleasure-domes by decree. New York and London, Paris and Moscow—they were less functional, less efficient for their citizens than the caves of the troglodytes. In cities man had always tried to sow on arid ground.

But this was a city for men.

It was not merely a matter of parks and roads, of rolling ramps and paragravity currents for levitation, not simply a question of design and architecture. The city was planned according to rules of human psychology. The people fitted into it as into a foam mattress. It was quiet. It was beautiful and functional. It was perfect for its purpose.

"I saw that psychologist again today," Norman said.

Mia folded her arms and leaned on the parapet. She didn't look at her companion.

"And?"

"Generalizations."

"But they always know the answers," Mia said. "They always know the *right* answers."

"This one didn't."

"It may take time. Really, Bill, you know . . . no one's . . . frustrated—"

"I don't know what it is," Norman said. "Heredity, perhaps. All I know is I get these . . . these flashes. Which the psychologists can't explain."

"But there has to be an explanation."

"That's what the psychologist said. Still, he couldn't tell me what it was."

"Can't you analyze it at all?" she asked, sliding her hand into his. His fingers tightened. He looked at the Seventh Monument and beyond it.

"No," he said. "It's just that I feel there isn't any answer."

"To what?"

"I don't know. I . . . I wish I could get out of the city."

Her hand relaxed suddenly. "Bill. You know—"

He laughed softly. "I know. There's no way out. Not through the Barrier. Maybe that isn't what I want, after all. But this . . . this—" He stared at the Monument. "It seems all wrong sometimes. I just can't explain it. It's the whole city. It makes me feel haywire. Then I get these flashes—"

She felt his hand stiffen. It was jerked away abruptly. Bill Norman covered his eyes and screamed.

"Flashes of realization," Nehral said to Fleming. "They don't last long. If they did, he'd go insane or die. Of course the citizen psychologists can't help him; it's outside their scope by definition."

Fleming, sensitive to telepathic emotion, said, "You're worried." He did not speak aloud.

"Naturally. We Controllers have our own conditioning. An ordinary citizen couldn't hold our power; it wouldn't be safe. The builders worked out a good many plans before they decided to create us. They'd thought of making androids

and robots to control, but the human factor was needed. Emotion's needed, to react to the conditioning. From birth, by hypnosis, we're conditioned to protect and serve the citizens. We couldn't do anything else if we tried. It's ingrained."

"Every citizen?" Fleming asked, and Nehral sighed.

"That's the trouble. *Every* citizen. The whole is equal to the sum total of the parts. One citizen, to us, represents the entire group. I'm not certain that this wasn't a mistake of the builders. For when one citizen threatens the group — as Norman does—"

"But we've got to solve Norman's problem."

"Yes. It's our problem. Every citizen must have physical and mental balance—*must*. I was wondering—"

"Well?"

"For the good of the whole, it would be better if Norman could be eliminated. On purely logical grounds, he should be allowed to go mad or die. I can't countenance that, though. I'm too firmly conditioned against it."

"So am I," Fleming said, and Nehral nodded.

"Exactly. We *must* cure him. We've got to get him back to a sane psychological balance. Or we may crack up ourselves — because we're not conditioned to react to failure. Now. You're the youngest of us available; you have more in common with the citizens than any of us. So, you may find an answer where we can't."

"Norman should have been a Controller," Fleming said.

"Yes. But it's too late for that now. He's mature. His heredity—bad, from our viewpoint. Mathematicians and theologians. The problems of every citizen in the city can be solved, with the Monuments. We can give them answers that are right for them. But Norman's hunting an abstraction. That's the trouble. *We can't give him a satisfactory answer!*"

"Haven't there ever been parallel psychoses—"

"It's not a psychosis, that's the difficulty. Except by the arbitrary standards of the city. Oh, there've been plenty of human problems — a woman who wants children, for example, and can't have them. If medicine fails to help her, the Monuments will. By creating diversion—arousing her maternal instinct for something else, or channeling it elsewhere. By substitution. Making her believe she has a mission of some sort. Or creating an emotional attachment of another kind, not maternal. The idea is to trace the problems back to their psychological roots, and then get rid of the frustration somehow. It's the frustration that's fatal."

"Diversion, perhaps—?"

"I don't think it's possible. Norman's problem is an abstraction. And if we answered it—he would go insane."

"I don't know what my problem is,." Norman said desperately. "I don't have any. I'm young, healthy, doing work I like, I'm engaged—"

The psychologist scratched his jaw. "If we knew what your prob-

lem is, we could do something about it," he said. "The most suggestive point here—" He rustled through the papers before him. "Let's see. Do I seem real to you now?"

"Very," Norman said.

"But there are times— The syndrome's familiar. Sometimes you doubt reality. Most people have that feeling occasionally." He leaned back and made thoughtful noises. Through the transparent wall the Fifth Monument was visible, pulsating with soft beats of light. It was very quiet here.

"You mean you don't know what's wrong with me," Norman said.

"I don't know yet. But I will. First we must find out what your problem is."

"How long will that take? Ten years?"

"I had a problem myself once," the psychologist said. "At the time I didn't know what it was. I've found out since. I was heading for megalomania; I wanted to change people. So I took up this work. I turned my energy into a useful channel. That solved my problem for me. It's the right way for you, once we get at what's bothering you."

"All I want is to get rid of these hallucinations," Norman said.

"Auditory, visual, and olfactory—mostly. And without external basis in fact. They're not illusions, they're hallucinations. I wish you could give me more details about them."

"I can't." Norman seemed to shrink. "It's like being dropped into boiling metal. It's simply indescribable. An impression of noise, lights —it comes and goes in a flash. But it's a flash of hell."

"Tomorrow we'll try narcosynthesis again. I want to correlate my ideas in the meantime. It's just possible—"

Norman stepped into a levitating current and was borne upward. At the level of the Fifth Monument's upper balcony he stepped off. There were a few people here, not many, and they were busy with their own affairs—love-making and sight-seeing. Norman rested his arms on the rail and stared down. He had come up here because of a vague, unlikely hope that it would be quieter on the high balcony far above the city.

It was quiet, but no more so than the city had been. The rolling ways curved and slid smoothly beneath him. They were silent. Above him the Barrier was a gray, silent dome. He thought that gigantic claps of thunder were pounding at the Barrier from outside, that the impregnable hemisphere was beginning to crack, to buckle—to admit chaos in a roaring flood.

He gripped the cool plastic rail hard. Its solidity wasn't reassuring. In a moment the Barrier would split wide open—

There was no relief on the Monument. He glanced behind him at the base of the softly shining globe, with its rippling patterns of light, but that looked ready to shatter too. He stumbled as he jumped back into the drop-current. In fact, he missed it entirely. There was a heart-stopping instant when he was in free fall; then a safety-paragravity locked tight on

his body and slid him easily into the current. He fell slowly.

But he had a new thought now. Suicide.

There were two questions involved. Did he want to commit suicide? And would suicide be possible? He studied the second point.

Without noticing, automatically he stepped on a moving way and dropped into one of the cushioned seats. No one died of violence in the city. No one ever had, as far as he knew. But had people tried to kill themselves?

It was a new, strange concept. There were so many safeties. No danger had been overlooked. There were no accidents.

The road curved. Forty feet away, across a lawn and a low wall, was the Barrier. Norman stood up and walked toward it. He was conscious of both attraction and repulsion.

Beyond the Barrier—

He stopped. There it was, directly before him, a smooth, gray substance without any mark or pattern. It wasn't matter. It was something the builders had made, in the old days.

What was it like outside? Six hundred years had passed since the Barrier was created. In that time, the rest of the world could have changed considerably. An odd idea struck him: suppose the planet had been destroyed? Suppose a chain reaction had finally volatilized it? Would the city have been affected? Or was the city, within that fantastic barrier, not merely shielded but actually shifted into another plane of existence?

He struck his fist hard against the grayness; it was like striking rubber. Without warning the terror engulfed him. He could not hear himself screaming . . .

Afterward, he wondered how an eternity could be compressed into one instant. His thoughts swung back to suicide.

"Suicide?" Fleming said.

Nehral's mind was troubled. "Ecology fails," he remarked. "I suppose the trouble is that the city's a closed unit. We're doing artificially what was a natural law six hundred years ago. But nature didn't play favorites, as we're doing. And nature used variables. Mutations, I mean. There weren't any rules about introducing new pieces into the game—in fact, there weren't any rules about not introducing new rules. But here in the city we've got to stick by the original rules and the original pieces. If Bill Norman kills himself, I don't know what may happen."

"To us?"

"To us, and, through us, to the citizens. Norman's psychologist can't help him; he's a citizen, too. He doesn't know—"

"What was his problem, by the way? The psychologist's, I mean. He told Norman he'd solved it by taking up psychology."

"Sadism. We took care of that easily enough. We aroused his interest in the study of psychology. His mental index was so high we couldn't give him surgery; he needed a subtler intellectual release. But he's thoroughly social and well-balanced now. The practice of psychology is

the sublimation he needed, and he's very competent. However, he'll never get at the root of Norman's trouble. Ecology fails," he repeated. "The relationship between an organism and its environment — irreconcilable, in this case. Hallucinations! Norman doesn't have hallucinations. Or even illusions. He simply has rational periods—luckily brief."

"It's an abnormal ecology anyway."

"It had to be. The city is uninhabitable."

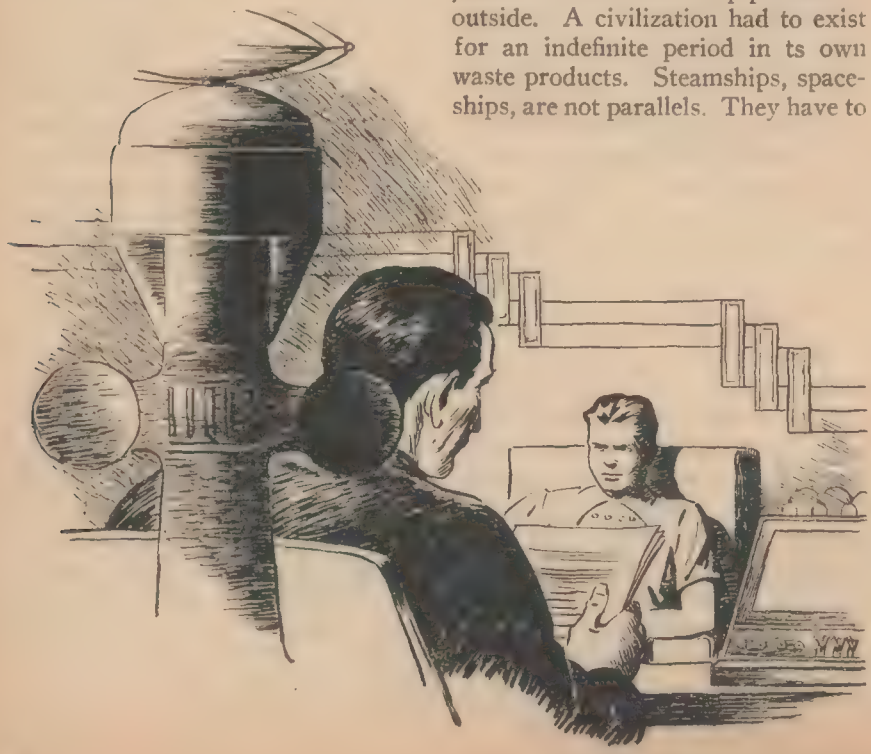
The city screamed!

It was a microcosm, and it had to battle unimaginable stresses to maintain its efficiency. It was an outboard motor on a lifeboat. The storm rage. The motor strained, shrilled, sparked — screamed. The environment was so completely artificial that no normal technology could have kept the balance.

Six hundred years ago the builders had studied and discarded plan after plan. The maximum diameter of a Barrier was five miles. The vulnerability increased according to the square of the diameter. And invulnerability was the main factor.

The city had to be built and maintained as a self-sufficient unit within an impossibly small radius.

Consider the problems. *Self-sufficient.* There were no pipe lines to outside. A civilization had to exist for an indefinite period in ts own waste products. Steamships, spaceships, are not parallels. They have to



make port and take in fresh supplies.

This lifeboat would be at sea for much longer than six hundred years. And the citizens -- the survivors— must be kept not only alive, but healthy physically and mentally.

The smaller the area, the higher the concentration. The builders could make the necessary machines. They knew how to do that. But such machines had never been constructed before on the planet. Not in such concentration!

Civilization is an artificial environment. With the machines that were necessary, the city became so artificial that nobody could live in it. The builders got their efficiency; they made the city so that it could exist indefinitely, supplying all the air, water, food and power required. The machines took care of that.

But such machines!

The energy required and released was slightly inconceivable. It had to be released, of course. And it was. In light and sound and radiation— within the five-mile area under the Barrier.

Anyone living in the city would have developed a neurosis in two minutes, a psychosis in ten, and would have lived a little while longer than that. Thus the builders had an efficient city, but nobody could use it.

There was one answer.

Hypnosis.

Everyone in the city was under hypnosis. It was selective telepathic hypnosis, with the so-called Monuments — powerful hypnopedic machines—as the control devices. The survivors in the lifeboat didn't know there was a storm. They saw only placid water on which the boat drifted smoothly.

The city screamed to deaf ears. No one had heard it for six hundred years. No one had felt the radiation or seen the blinding, shocking light that flashed through the city. The citizens could not, and the Controllers could not either, because they were blind and deaf and dumb, and lacking in certain other senses. They had their telepathy, their ESP, which enabled them to accomplish their task of steering the lifeboat. As for the citizens, their job was to survive.

No one had heard the city screaming for six hundred years — except Bill Norman.

"He has an inquiring mind," Nehral said dryly. "Too inquiring. His problem's an abstraction, as I've mentioned, and if he gets the right answer it'll kill him. If he doesn't, he'll go insane. In either case, we'll suffer, because we're not conditioned to failure. The main hypnotic maxim implanted in our minds is that every citizen must survive. All right. You've got the facts now, Fleming. Does anything suggest itself?"

"I don't have all the facts. What's Norman's problem?"

"He comes of dangerous stock," Nehral answered indirectly. "Theologians and mathematicians. His mind is . . . a little too rational. As for his problem — well, Pilate asked the same question three thousand years ago, and I don't recall his ever getting an answer. It's a question that's lain behind every bit of research since research first started.

But the answer has never been fatal till now. Norman's question is simply this—*what is truth?*"

There was a pause. Nehral went on.

"He hasn't expressed it even to himself. He doesn't know he's asking that question. But we know; we have entree to his mind. That's the question that he's finding insoluble, and the problem that's bringing him gradually out of control, out of his hypnosis. So far there've been only flashes of realization. Split-second rational periods. Those are bad enough, for him. He's heard and seen the city as it is—"

Another pause. Fleming's thoughts stilled. Nehral said:

"It's the only problem we can't solve by hypnotic suggestion. We've tried. But it's useless. Norman's that remarkably rare person, someone who is looking for the truth."

Fleming said slowly, "He's looking for the truth. But — does he have —to find it?"

His thoughts raced into Nehral's brain, flint against steel, and struck fire there.

Three weeks later the psychologist pronounced Norman cured and he instantly married Mia. They went up to the Fifth Monument and held hands.

"As long as you understand—" Norman said.

"I'll go with you," she told him. "Anywhere."

"Well, it won't be tomorrow. I was going at it the wrong way. Imagine trying to tunnel out through the Barrier! No. I'll have to fight fire with fire. The Barrier's the result of natural physical laws. There's no secret about how it was created. But how to destroy it — that's another thing entirely."

"They say it can't be destroyed. Some day it'll disappear, Bill."

"When? I'm not going to wait for that. It may take me years, because I'll have to learn how to use my weapons. Years of study and practice and research. But I've got a purpose."

"You can't become an expert nuclear physicist overnight."

He laughed and put his arm around her shoulders. "I don't expect to. First things come first. First I'll have to learn to be a good physicist. Ehrlich and Pasteur and Curie—they had a drive, a motivation. So have I, now. I know what I want. I want out."

"Bill, if you should fail—"

"I expect to, at first. But in the end I won't fail. I know what I want. *Out!*"

She moved closer to him, and they were silent, looking down at the quiet, familiar friendliness of the city. *I can stand it for a while,* Norman thought. *Especially with Mia. Now that the psychologist's got rid of my trouble, I can settle down to work.*

Above them the rippling, soft light beat out from the great globe atop the Monument.

"Mia—"

"Yes?"

"I know what I want now."

"But he doesn't know," Fleming said.

"That's all right," Nehral said cheerfully. "He never really knew what his problem was. You found the answer. Not the one he wanted, but the best one. Displacement, diversion, sublimation — the name doesn't matter. It was the same treatment, basically, as turning sadistic tendencies into channels of beneficial surgery. We've given Norman his compromise. He still doesn't know what he's looking for, but he's been hypnotized into believing that he can find it outside the city. Put food on top of a wall, out of reach of a starving man, and you'll get a neurosis. But if you give the man materials for building a ladder, his energy will be deflected into a productive channel. Norman will spend all his life in research, and probably make some valuable discoveries. He's sane again. He's under the preventive hypnosis. And he'll die thinking there's a way out."

"Through the Barrier? There isn't."

"Of course there isn't. But Norman could accept the hypnotic suggestion that there *was* a way, if only he could find it. We've given him the materials to build his ladder. He'll fail and fail, but he'll never really get discouraged. He's looking for truth. We've told him he can find truth outside the Barrier, and that he can find a way out. He's happy now. He's stopped rocking the lifeboat."

"Truth . . ." Fleming said, and then, "Nehral — I've been wondering."

"What?"

"Is there a Barrier?"

Nehral said, "But the city's survived! Nothing from outside has ever come through the Barrier—"

"Suppose there isn't a Barrier," Fleming said. "How would the city look from outside? Like a . . . a furnace, perhaps. It's uninhabitable. We can't conceive of the real city, any more than the hypnotized citizens can. Would you walk into a furnace? Nehral, perhaps the city's its own Barrier."

"But we sense the Barrier. The citizens see the Barrier—"

"Do they? Do—we? Or is that part of the hypnosis too, a part we don't know about? Nehral—I don't know. There may be a Barrier, and it may disappear when its half-time is run. But suppose we just *think* there's a Barrier?"

"But—" Nehral said, and stopped. "That would mean—Norman might find a way out!"

"I wonder if that was what the builders planned?" Fleming said.

THE END.

SPACEHOUNDS OF IPC

E. E. Smith's long novel, "Spacehounds of IPC," has at last appeared in book form. The story has been almost totally unobtainable for some ten years; in the Smith tradition, it's a bang-up yarn. The science-fiction books are beginning to appear, but this one is a 2000-copy limited edition. Fantasy Press of Reading, Pa., published it. It's $3.00, and if yours is order #2001, you'll wait another ten years.

PSEUDOSCIENCE IN NAZILAND

BY WILLY LEY

The Nazis did accomplish a remarkable series of scientific advances. Willy Ley explains, in part, how come. Nazi research seems to have been strictly on the shotgun technique; if you shoot enough holes in the unknown, something's apt to drop in your lap. And the Nazis tried everything—anything, no matter how wild!

Illustrated by Tiedeman

When things get so tough that there seems to be no way out, the Russian embraces the vodka bottle, the Frenchman a woman and the American the Bible.

The German tends to resort to magic, to some nonsensical belief which he tries to validate by way of hysterics and physical force. Not every German, of course. Not even a majority, but it seems to me that the percentage of people so inclined is higher in Germany than in other countries. It was the willingness of a noticeable proportion of the Germans to rate rhetoric above research, and intuition above knowledge, that brought to power a political party which was frankly and loudly anti-intellectual. The Nazis not only burned books they disliked, they also classified theoretical physicists with "Jews and Marxists."

Small wonder the pseudoscientists

experienced a heyday under such a régime — but it would be a mistake to beleive that these pseudosciences which I am going to describe, originated with the Nazis. They existed, and to some extent even flourished, before Hitler. But then they were hemmed in by the authority of the scientists—after Hitler had become Führer it was almost the other way round.

When speaking about German pseudoscience I am not thinking so much of the usual run of astrologers, fortune tellers, theosophers and devotees to occultism. Of course there was a theosophical society—or rather a few branches hurling noncompliments at one another—there were astrological magazines and presumably astrological societies. There were struggling clairvoyants, mostly struggling among themselves by way of the printed word and resulting lawsuits—I won't judge, but I should think that they should have known the outcome — and there was an occultistic magazine vainly trying to make peace and "advance the cause."

Representatives of all these groups existed in Germany before World War I and began to flourish during World War I. They kept flourishing during the inflationary period, received a slight setback during the few years of mild prosperity in the Twenties, and flourished again during the years leading up to Hitler. Under Hitler they did not do so well and some groups were even outlawed. If my information is correct, the astrologers found themselves among the outlawed groups, although everybody inside Germany as well as outside knew that Hitler and Himmler had a personal astrologer, reportedly a man whose name happened to be Führer, a Dr. W. Führer who also was "Plenipotentiary for Mathematics, Astronomy and Physics."

The pseudosciences I have in mind are not these internationally distributed permanent fads, but some which originated in Germany and, while not completely unknown elsewhere, had a special appeal to Germans, in about the same sense in which it might be said that the pyramidologists are a British prerogative.

Much of their appeal must have been based on semantic connotations; it is difficult even to translate the names of these "sciences" properly.

The most important of them were *Pendelforschung* — Pendulum Research, *Hohlweltlehre* — Hollow Earth Doctrine, and *Welteislehre*— usually abbreviated as WEL, translatable approximately as World Ice Doctrine. But before devoting any space to these more outstanding "achievements" I have to clean up a few minor but not less surprising matters.

In the days before the Nazis became important the term "Ariosophy" could be seen occasionally in some newspapers. Then, one day, there was a small ad, announcing a lecture on Ariosophy by a man whose name I forget. It was stated that he was a disciple of the founder of Ariosophy, Dr. Jörg Lanz von Liebenfels. It was also stated that

priests would not be admitted to the lecture.

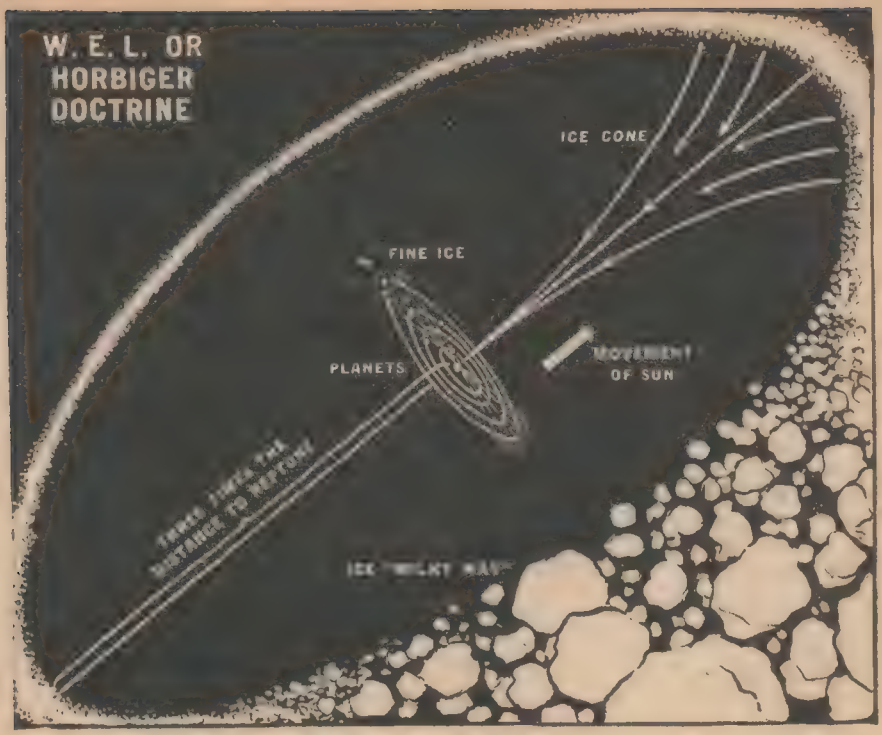
The lecturer, who tried hard to look like Albrecht Dürer, the famous but long-dead German painter, began his lecture with the statement that there were several human races but that skin color is not the most important criterion for distinguishing the races. Then he launched into an explanation of the hidden importance of language, saying that figures of speech contain deep truths which, in everyday usage, are usually overlooked. People say, for example, "I can't stand that man's smell" — remember, the lecture was in German, where that figure of speech is used to express personal dislike for somebody, a dislike lacking specific rational reasons — well, that just indicates the otherwise forgotten fact that the various races have different smells, in short it expresses revulsion at the other man's race.

By that time the lecture had got around to the word Man — in German *Mensch* — and he pointed out that there was a rare word *manschen* which means to mix—something unsavory—and with a long jump from linguistics into the Bible *manschen* and *Mensch* were connected. Humanity, it turned out, was the result of a—forbidden—mixture of angels and animals. Each person has a small percentage of angel and a large percentage of animal. The races indicate roughly what the percentages are, a "true race" consists of individuals of about the same percentage which seek each other out. Obviously any small community is apt to harbor individuals of about the same "race"; pure Aryans, like, for example, the inhabitants of mountain villages in Norway, may be as high as one per cent angel.

You can easily see how and where such dream-reasoning fitted into the Nzai philosophy; to my surprise no Party Group or Nazi community ever erected a statue in honor of Dr. Jörg Lanz von Liebenfels — whose real name may have been Ignaz Donnerwetter.

The Ariosophers could at least quote a few Biblical passages in support of their ideas—they stated that their founder had been a Catholic priest before "he saw the light." The next group was literally founded upon a novel. That group which I think called itself *Wahrheitsgesellschaft* — Society for Truth — and which was more or less localized in Berlin, devoted its spare time looking for *Vril*. Yes, their convictions were founded upon Bulwer-Lytton's "The Coming Race." They knew that the book was fiction, Bulwer-Lytton had used that device in order to be able to tell the truth about this "power." The subterranean humanity was nonsense, *Vril* was not. Possibly it had enabled the British, who kept it as a State secret, to amass their colonial empire. Surely the Romans had had it, inclosed in small metal balls, which guarded their homes and were referred to as *lares*. For reasons which I failed to penetrate, the secret of *Vril* could be found by contemplating the structure of an apple, sliced in halves.

No, I am not joking, that is what I was told with great solemnity and



secrecy. Such a group actually existed, they even got out the first issue of a magazine which was to proclaim their credo. (I wish I had kept some of these things; but I had enough books to smuggle out as it was.)

And now we are ready for *Pendelforschung.*

As translated above, the word means Pendulum Research, which sounds like a serious scientific occupation—say a branch of mechanics. What it meant was this: if you suspended a piece of gold, say a plain wedding ring, from a thread of pure silk, the pendulum would reveal "secrets." To work it you placed both elbows on the table and placed the fingertips of your two hands together, fingers slightly spread apart. The silk thread was put between the tips of the middle fingers and then an object, say a photograph, was placed upside down under the suspended ring. After a little while the pendulum would describe a figure, either a circle or an ellipse. The circle was male, the ellipse female. The figure corresponded to the sex of the person on the picture.

If it didn't, the picture either showed a very masculine woman or a very feminine man. The method could be used to establish whether two people who wanted to get married, would harmonize, whether em-

ployer and employee would get along and a thousand other things. I was informed, for example, why my wrist watch did not want to go. It was "male" too. Later, an uninitiated watchmaker also found a bent shaft.

For further development see the report by Gerard P. Kuiper on "German Astronomy During the War," published in *Popular Astronomy*, Vol. LIV, No. 6, June, 1946:

Other groups (of the German navy) including officers of flag rank, supported Pendelforschung: a large map of the Atlantic was spread out horizontally, with a one-inch toy battleship as test object. A pendulum, consisting of a cube of metal about one cubic centimeter and a short string, was swung above the battleship. If the pendulum reacted, it proved the presence of a true battleship at that location.

The *Hohlweltlehre*—Hollow Earth Doctrine—was invented, as far as I was able to find out, in about 1920. Its main tenet was: the Earth is real, everything else is an optical illusion. The Earth was a spherical bubble, of the same dimensions which "orthodox geography" ascribes to it, in an infinity of solid rock. Humanity lived on the inside of that bubble which was precisely like an "orthodox globe," but seen from the inside. Three bodies moved near the center of that empty bubble, the Sun, the Moon, and the "phantom Universe," a dark-blue sphere with little lights on it, mistaken for the fixed stars. Night was caused by the phantom Universe obscuring the Sun for a part of the Earth; eclipses by the shadow of the phantom Universe falling upon the Moon.

The "wrong impression" which we have about the Universe is caused by the mistake of thinking that light rays are straight. All rays are always curved, their radius of curvature being on the order of ¼ of the Earth's radius. Because of the curved rays we see distorted projections of things which result in the "astronomical universe" because we always straightened the light rays out. More distortions result from the fact that violet rays have a stronger curvature than red rays.

And now a direct quote — from memory — from the final chapter of the treatise I saw: "Old folk tales often speak of the time when God still walked on Earth. We know that the Earth-Universe expands, even Einstein admits that. What is more logical then, than to take the old folk tales at face value and assume that they refer to a time when the Earth-Universe was smaller and the distance from the central luminosities to the surface less than it is now?"

For further developments here is an excerpt from Gerard P. Kuiper's report:

Certain German naval circles believed in the Hohlwelttheorie. They considered it helpful to locate the British fleet, because the curvature of the Earth would not obstruct observation. Visual rays were not suitable because of refraction; but infrared rays had less refraction. Accordingly a party of about ten men under the scientific leadership of Dr. Heinz Fischer, an infrared expert, was sent out from Berlin to the isle of Rügen to photograph the British fleet with infrared equipment at an upward angle of some forty-five degrees.

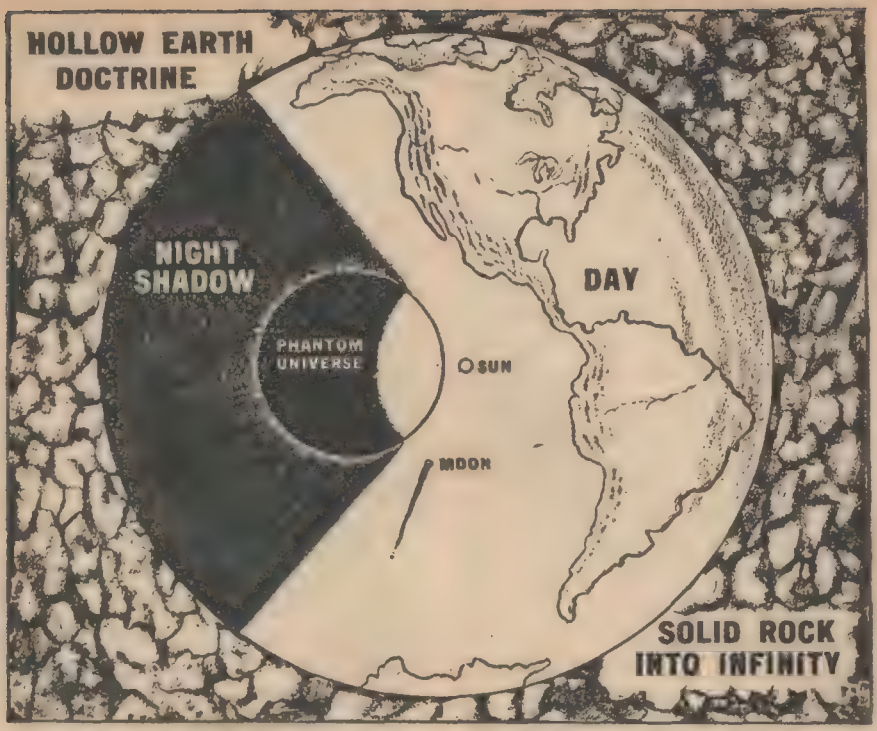
The remaining phenomenon of German pseudoscience, the *Welteislehre* or WEL is in many respects

the most remarkable. It had literally millions of fanatical supporters who would interrupt educational meetings with concerted yelling, "Out With Astronomical Orthodoxy, Give Us Hörbiger," it owned and maintained an Information Bureau in Vienna, it maintained a monthly magazine—*The Key to World Events*—of large circulation, it produces three or four "scientific," close to forty "popular" books and several dozen throw-away pamphlets. The leaders of the WEL wrote openly threatening letters; I once saw one—not addressed to me—in which the director of a government institute was told "once we have won, you and your kind will go begging." And the founder of it all, Hanns Hörbiger, with whom I was in correspondence about rockets for some time, bared the WEL's chief doctrine once in a letter in which he wrote: "either you believe me and learn, or you must be treated as an enemy." And I know of a minor businessman who hired help only if the prospective employee, to use his own words, "had assured him that he or she felt friendly about the World Ice."

It was in 1913 that one Philipp Fauth, school teacher and amateur astronomer — with some reputation as a Moon specialist — published a book of about eight hundred pages, about the size and weight of one volume of the *Britannica*. It was entitled *Hörbiger's Glazial-Kosmogonie*. Much of it had actually been written by Hörbiger, an Austrian mining engineer who at first said very politely that he had tried to solve the riddles of the Universe, especially the formation of planets, geological history and meteorology with engineering principles. Later on he claimed that recognition had been denied him because he was an engineer and not an astronomical theorist. I may add that both his publications and his letters revealed clearly that he was not even a good engineer.

The outbreak of World War I killed interest in this first publication which was later referred to as the Main Work. After the first World War Hanns Hörbiger, equipped with a long white beard and a handwriting which was calculated to impress amateur graphologers, appeared on the scene like a political party, with leaflets and posters, publicity machinery and everything. If anybody doubted him he shouted: "Instead of trusting me you trust equations! How long will you need to learn that mathematics is valueless and deceptive?" The "practical engineer" Hörbiger never calculated anything, it was his loudest and proudest claim.

One of his pupils, an architect, told awed and large audiences that Hörbiger's information about the true state of the Universe was based entirely on intuition. As a boy, he said, the Master had a small telescope with which he looked at the Moon. Then, suddenly, he realized that what he saw was ice, cold ice, the whole Moon was made of ice. He glanced at blinding Venus which was still in the sky; Venus too was cold and brilliant ice. Years later, Hörbiger was asleep, dreaming about astronomy. He saw the Earth as a pendulum suspended from a lumi-



nous thread and saw it swing, in longer and longer swings. It swung to Jupiter, and to Saturn and beyond, but when it swung to three times the distance of Neptune the string broke. Hörbiger awakened and realized that the Sun's attraction stops at that distance.

When I asked Hörbiger by mail whether these claims were true, he replied modestly saying, "Yes, that way the truth was revealed to me, but the clue factor was when, as a young engineer, I saw molten iron run over waterlogged earth with patches of snow on it and observed that the wet lumps of soil exploded with a delay and with great violence."

What did Hörbiger actually say? Here is his tale:

Many millions of years ago there existed in the constellation Columba a super giant sun, millions of times as large and heavy as our sun. Near that sun there was a gigantic planet, many times as heavy as Jupiter, covered by layers of ice hundreds of miles thick and water-logged all through. This planet fell into its sun and settled at a depth corresponding to its specific gravity. Its water and ice was changed into super-heated steam, but nothing happened for more millions of years. Then the equilibrium was disturbed for some reason, and the super-

heated steam blew the old planet and the layers of sun material above it into space, as a whirling mass. This was the birth of our sun and our solar system. Much of the original planet mass had been metal oxides, the heat released the oxygen and the oxygen combined with the thin atmosphere of hydrogen which fills all space into water which then froze.

Through many successive stages our solar system evolved, with more than thirty planets. Surrounding the system at about right angles there is a mighty ring of blocks of cosmic ice, hovering a little beyond three times the distance of Neptune. It is this ring of ice blocks which astronomers believe to be the Milky Way because a few normal stars like our sun shine through the ice ring. Actually the Milky Way has never been and will never be resolved in a telescope; photographs claiming to show the individual stars of the Milky Way are fakes. Because of the resistance of the hydrogen in space a number of these ice blocks is sufficiently retarded to be caught in the Sun's gravitational field and finally to fall into the Sun. Each such ice block impact causes a sunspot—even astronomers admit that the sunspots are cooler than their surroundings—and the sunspots have an eleven-year cycle because of Jupiter who needs the same time to circle the Sun.

Of planets there are two types, the Heliodes or inner planets, mostly metal and metal compounds, and the Neptodes or outer planets, consisting almost entirely of ice. Hence their low specific gravity, which is about that of ice.* If an ice block on its way to the Sun happens to hit Earth, we get a devastating hailstorm, as proved by the fact that hailstorms often move in straight lines. But the ice block which fell into the Sun does not stay there, it evaporates and is blown out through the funnel of the sunspot as a jet of hot-water vapor which freezes in space and forms the Fine Ice. Both Mercury and Venus, being so close ot the Sun, are completely covered with it. When it hits Earth, the Fine Ice produces those very high cirrus clouds, in fact the diameter of Earth would grow by about six inches every year because of Fine Ice if water did not disappear in the Earth's interior at the same rate.

Earth's position is unique, not only because of that lucky balance. If it were closer to the Sun, it would be covered by Fine Ice like Venus. If it were farther out, it would be hit more often by ice blocks and be covered by an ice ocean several miles deep like Mars. The continents of Mars are merely permanent ice continents, the canals are cracks in the ice. Our Moon is covered with ice like Mars, being originally an independent planet which has been captured. Because of the resistance of the hydrogen in space, the Moon will ultimately crash on Earth; that will be the end of all life. Several smaller moons preceded our Moon, fortunately they were too small to kill all

* I asked Hörbiger about Saturn whose average density is *less* than that of water. Hörbiger replied that "orthodox astronomers" would probably say that they don't know the height of the atmosphere, but that he would explain later why Saturn is in a gravitational shadow.

life; their masses formed what we now call geological deposits.

The most recent Moon cataclysm was witnessed by primitive Man; the Norse legends about Götterdämmerung and the apocalyptic visions represent attempts to describe this event. They were written after the present moon had been captured—its capture caused Atlantis to sink — and the people who wrote them knew that the experience of the past was also a prophecy of the future.

To pick flaws in this theory is about as easy—and as pleasant—as gathering Japanese beetles from an infested flowerbed. At first German scientists amused themselves by compiling long lists of Hörbigerian impossibilities. But they grew serious and even alarmed when the WEL suddenly assumed the proportions of a powerful popular movement in pseudo-intellectual circles. And after Hitler had come to power, the WEL adherents declared threateningly that now everybody MUST believe Hörbiger, or else. "Our Nordic ancestors grew strong in ice and snow; belief in the World Ice is consequently the natural heritage of Nordic Man." "Just as it needed a child of Austrian culture — Hitler! — to put the Jewish politicians in their place, so it needed an Austrian to cleanse the world of Jewish science." "The Führer, by his very life, has proved how much a so-called 'amateur' can be superior to self-styled professionals; it needed another 'amateur' to give us complete understanding of the universe."

Maybe Hitler did not like the term "amateur," at any event the WEL people did not find the going as easy as they had hoped. The Propaganda Ministry even stated once that "one can be a good National Socialist without believing in the WEL." The astronomer Robert Henseling continued to struggle against the WEL, universities continued to teach "orthodox astronomy," but the WEL remained popular to the bitter end. The WEL claimed that its principles permitted reliable "general"—as distinct from local—weather forecasts for months and even years in advance. Their organization did publish such forecasts, and a good number of young meteorologists toyed with the World Ice. But they failed to foresee that winter which broke Hitler's back on the Russian plains.

THE END.

SLAN!

A. E. van Vogt's most famous novel, "Slan"!, is at last available in book form. If you read it in Astounding, you'll want the hard-cover book form; if you missed it in Astounding, you've finally got a chance to get it. It's available at or through book stores or from Arkham House, Sauk City, Wisconsin. But *don't* write us for it. It's $2.50.

Almost simultaneously, Hadley Publishing Company, 271 Doyle Ave., Providence 6, R. I., has brought out another one of van Vogt's top novels—"The Weapon Makers." The same comments as above apply to this one, with the following addition: Hadley, a smaller publishing house, has turned out a limited edition—and the limited isn't in quotes. This one's $3.00.

BY CHAN DAVIS

THE JOURNEY AND THE GOAL

The journey from Titan to Earth was long and hard anyway—but the colonists were forbidden to make it. Two, defying all laws tried it—and found that there are two kinds of laws: Man's which can be broken, and Nature's—which can't.

Illustrated by Orban

Jack and Evlyn met after work to go up together to the Observatory.

This trip was a regular thing for them, partly a habit, like any ritual, but mostly a holy pilgrimage. Jack had been making it ever since the time, fifteen years before, when his father had first told him of the many other worlds far in space outside their own. The tales had wakened his imagination, and his father, hard put to it by some of the boy's questions, had one day answered Jack's pleas and taken him to the "Sky Room." There was a man named Creeden at the Observatory who had been willing and able to answer his questions, and — there had been the tiny, inconceivably distant stars. Mr. Creeden had shown him the planets through the telescope, and had smiled at the rush of questions which each one brought forth. Eagerly, Jack had looked and listened, wishing si-

lently that it was possible for him to go himself to all these strange worlds, to see himself all these incredible things of which he was told.

The longing had lasted. Even when Jack had had to start work in the mines, his friendship and almost apprenticeship to Mr. Creeden had continued. He had studied; slowly, because there was so much he did not know, and with difficulty, because at first he had patience only for the stars themselves and not for the seemingly unrelated subjects which Mr. Creeden insisted he must also know. Creeden had told him that in the place from which he had come Jack would have been able to spend all his time in studying instead of working in the mines, and neither would his teachers have had other duties beside education. Jack came to hate, as Creeden did, the dictator, Montiel, who denied them all this. The hate, like the curiosity, was part of Jack's longing, but always strongest was the dream of some day crossing space.

And then he had met Evlyn Winters and told her of his longing, and she had understood it, she had shared it; and it had become, no longer Jack Rowell's dream, but the dream of Jack and Evlyn. And when, later, they had gazed upward at the great, starred sky of night and said, like many more before them, "We shall live together always," they had thought, not of a life in this place that was their birthplace and their home, but of a life *there,* up there, of a new home on one of the distant, shining worlds of the sky.

They planned, and made a kind of joke out of working great detail into the plans, just as if there was hope that they might be fulfilled. Yet the serious core of the thing was always there; repeatedly they were shocked by the enduring intensity of it, by the unabating lure of the impossible.

Inevitably, their thoughts turned finally to one in particular of the planets they saw. For they knew that only there could they breathe the native air — stride barefoot the living soil — look at the stars direct, without inevitable intervening panes of artificial glass. Anywhere else they must dwell always within protecting metal domes, air-tight, insulated, and sterile, and eat none but synthetic foods; they must, in short, live as they were living here, on the planet Titan. Oh, it was natural that Jack and Evlyn should have turned to that one particular planet: the home of their ancestors—Earth.

Creeden was sitting before the calculator when Jack and Evlyn got there. He glanced up as they entered.

"Hello, Tony," said Jack, and "Hello, Mr. Creeden," said Evlyn.

"Come on in," Creeden responded, strangely without his usual cheer, and punched a few more keys. "You can go out to the observatory and wait, if you want to; I have to finish the landing trajectory for the FB-916."

"When's she due in?"

"About five hours, I think. Tell you when I'm through." This time he hadn't even looked up; Jack and Evlyn didn't bother him further.

The observatory was kept evacu-

ated, like those of Luna. The inside of the telescope had to be evacuated anyway, exposed as it must be to the emptiness that is where Titan's atmosphere would be if Titan had an atmosphere. And, that being the case, all parts of the scope proper had to be open to empty space too, to avoid sharp temperature differentials that could ruin the optical properties or even crack the mirror. Temperature was still a problem. During the Titanian day the scope had to be carefully shaded, lest the sun's radiant heat warm it unevenly.

Jack and Evlyn put on two of the spacesuits that were stacked beside the air lock, then stepped through into blackness. Jack groped, pressed a stud beside the door—and stars flowed brilliantly across the ceiling. Jack felt again the old wonder. He knew that really nothing had happened, the roof had merely slid back into the low wall. But it seemed as if the whole universe of light had been poured into the room with them.

The sun was not up, it had not been for fifteen "days" now. If it had been, they would not be here like this; the one time Jack had looked at the sun he had had to close his eyes against the demonic brightness of it. The sun was not up, but Saturn loomed low over the eastern horizon, in the position it always occupied. It seemed to fill half the sky with its soft-limned streaks of pastel red and blue. To Jack's eyes, used to the dimness of a planet where power was at a premium, it looked garish even beside the unrestrained, overflowing whiteness of the stars. Old faithful Saturn, forever hogging Titan's sky. And somewhere out there, Earth modest among the thousand stars, too dim to find unless you knew its position in advance, too distant for you to distinguish its vague disk or crescent; but certainly there, somewhere. Somewhere, too, was the ship which had left the Mother World such a short time before.

They looked for a long minute, then turned back toward the air lock. Jack looked back once, and felt pity for his friends in the mine who had never seen the sky.

Just inside the door they stopped. Creeden had just extracted from the machine a centimeter-wide strip, whose twin was now being fed to the calculator. Silently, invisibly, the machine calculated a course for a spaceship thousands of miles away.

Creeden stood, and crossed the room to file the strip. Jack had long since grown used to the Earthman's short stature—not even two meters—but he could see it still startled Evlyn. And to think that on Earth Creeden would be considered tall!

Ordinarily Creeden would have put on a spacesuit and gone with them back to the scope, or else taken them up to the photography room. He did neither. Instead, he motioned them to take off their suits and sit down in the weblike, fragile-looking metal chairs beside his desk. When they had done so, he gave an odd smile and said abruptly, "Montiel won't let you go to Earth, you know."

Jack and Evlyn looked dumbly at each other; they had never told anyone of their dream.

"Oh, I know you've been thinking about it," Creeden went on with calm understatement. "I've overheard some of the things you've said, and I knew long ago that Jack had something like that in the back of his mind. But you can't do it."

"We know that," said Evlyn.

"Do you know why?"

"Yes," answered Jack. "Montiel knows that if he allows emigration he may not have enough men left to run his mines, because no new colonists are coming here any more."

"There's a story behind that, too. You may not know the whole thing, so I'd better tell it from the beginning." And he told how, long before, when man was first extending his rule from Earth to the other planets of the system, the World State had broken down into rival factions, just as Seventeenth Century English companies had competed with each other in the development of what was then the New World. But this time the schisms had lasted. The Asian Commonwealth had established its rule over half of Mars, most of the remainder going finally to the European Union. America—a nation actually comprising only about half of the continent of that name—had had to be contented with a disappointingly barren Venus, plus a small share of Luna; so, impatient for further conquest, it had reached for the outer planets.

The asteroids, surprisingly enough, proved to be valuable as refrigerators—large-scale sources of liquid oxygen and other low-boiling liquids. Encouraged, America had struck outward again. The other nations had not followed just then, for, having temporarily neglected rocketry research in the all-out exploitation of their new colonies, they had no ships capable of making the Jupiter trip at opposition. When Titan was finally colonized, it was by Americans, with Jack's and Evlyn's grandparents among them. The new world had sent back pure titanium, a rarity on Earth, and a scarce isotope of mercury; and it had prospered.

Creeden broke off the narrative as the calculator emitted a series of sharp clicks, indicating that the tape was finished. He went over, took it out, and inserted it in the coder which he had previously connected to the microwave transmitter. The co-ordinates of the landing trajectory would now automatically be beamed from the antenna outside the dome to the incoming spaceship. Creeden sat down again and proceeded.

Titan's trade had been limited to America, but it had not been many years before the Titanians realized that the other nations, too, were good markets for their products. They had rebelled, under Montiel's father; America had made little effort to keep them subject, and they had set up their own government, like several other planet-colonies before them; Montiel's father had become the first dictator, though he had not been called that at first. Again Titan prospered—until disaster struck.

The mercury isotope which had been their most profitable product was obtained on Earth as the end

product of a radioactive disintegration series. It could be manufactured cheaply and simply in a small pile, wherever it was needed. Titan's mercury became valueless. The young nation was reduced to exporting titanium—a bulky substance, therefore wasteful of rocket fuel. They were forced to live a Spartan life, using a minimum of food, power, and even air. Immigration abruptly stopped, and, in compensation, those already present were forbidden to leave. The dictatorship was established and the dictators blamed all the unpleasant economies on Earth's imagined effort to starve the independent state into submission.

Here Jack interrupted the history with a thought which had been bothering him for the past few minutes: "Say, Tony, if you knew all along about our wanting to return to Earth"—he said "return" unconsciously—"why didn't you ever say anything about it before?"

"There's a reason for my bringing it up just now," Creeden smiled; and the way he phrased his answer brought Jack the first glimmerings of a wild hope. "You'll see what I mean in just a minute. Let me go on."

"You may not know that we're in a worse position now than we ever were before. We have nothing to offer but titanium. Well, that's a pretty common element everywhere, the only difficulty lies in extracting it from Martian and Earthian ores. Recently there's been work done on improved methods of extraction. Pretty promising work. You see where that leaves us.

"Montiel won't face the possibility that Titan may have to become a dead world. He's trying to keep down the inner planets' demand for new sources of titanium by increasing our output. That's why you're working longer hours than your parents did; that's why I'm working in the mines part time now; that's also why Montiel's keeping news of the danger from the people. He doesn't want anyone to consider leaving now."

"*Is* anyone considering leaving?" asked Jack.

"Yes."

"Yourself among them."

"That's right," Creeden admitted.

"Then we can go?"

"Slow down there, slow down," smiled Creeden. Then he added, with it seemed some reluctance, "Maybe you can— Do you want to go?"

Jack, surprised at his own calmness, said simply, "Yes, we do."

"I tell you. I may have to give that ship a course correction in as little as an hour; but that gives me time to take you down to see some friends of mine. They're also—shall we say, a little discontented with the way things are going.

"I guess you realize we don't like the idea of Montiel's guards finding us out. I wouldn't be telling you all this if I wasn't pretty sure you'd want to help us. How about it?"

Evlyn assented immediately, but Jack pondered. There had been anticlimax, both in Creeden's last words and in his tone. Jack per-

sisted, "Is there any chance of our going to Earth?"

"Oh, you can—" Creeden checked whatever he had started to say. "Maybe. Yes, there's a chance." He broke the ambiguous silence by starting toward the door. Jack and Evlyn followed.

Creeden was slightly out of breath when the three of them reached Mildred Robertson's home. She lived on the ground level, at the extreme outer edge of the dome. It had been a long walk down that dim, metal-sheathed corridor, and no one raised under Earth's terrific surface gravity, as Creeden was, can ever learn the effortless five-meter stride of the native Titanian. Nor was the dome's low air pressure helpful to one accustomed to the rich, dense atmosphere of Earth. Jack and Evlyn had tried to hold themselves back for the sake of the little Earthman, but habit is strong. A man on a bicycle has a hard time holding himself to a pedestrian's pace.

Creeden dropped his hand to the small photocell beside the door and shut off the light to it for a second. Removing his hand, then replacing it several times more, he traced a rapid combination. A low buzzing told them someone was covering the corresponding photocell inside; the door swung open.

"Well, hello, Tony," said the woman who stood before them, "come in, come in, we've been waiting for you. Is this—?"

Creeden said, "Mildred Robertson —Jack Rowell and Evlyn Winters."

"I'm glad to know you," she said, almost too heartily, and ushered them to seats opposite the one she then took. "Glad to know you. Mr. Rowell and Miss Winters, this is Art Rand." She indicated a tired-looking fat man sitting in the darkness of a corner. Jack and Evlyn said hello. Art Rand grunted.

"I think," said Tony Creeden to Mildred Robertson, "we'd better begin by telling these two something about our organization." He stopped as she bent upon him an almost hostile look; when he went on, it was that look which he answered. "We've got plenty of time, Mildred. Even I don't have to leave for nearly an hour. And you remember what we agreed before." Art Rand nodded.

Creeden began, "As an organization, we're not much. You'd be surprised how effective Montiel's guards are. We can't go out and recruit chance acquaintances; the mere attempt could be suicide, you know. We have to be dead sure a person's with us before we can give even a reasonably broad hint of the organization's existence.

"And occasionally one of us gets caught. There have been two so far. That danger's always there, and it means we have to organize on the cell-system, so that each member knows only a few of the other members. Once I spent about fifty days trying to sound out a friend of mine, wondering whether I dared ask him to join. In the end I decided not to. It turned out, much later, that he had already been a member! You see, even though I'm one of the lead-

ers I still don't know more than a fraction of our men.

"Yes," he answered Evlyn's unspoken comment, "we three, Rand, Robertson, and myself, are the leaders. Each of us knows roughly a third of the cell captains, and a scattered few of the members of the cells."

Evlyn commented vocally on this. "Why do you bring us here? Why didn't you just ask us to join cells?"

Mildred Robertson answered: "In the first place, Tony has told us we could trust you absolutely. And you two are more important than you realize—" She stopped, under the combined frowns of Rand and Creeden.

Jack, mystified though he was by the by-play, decided to take a shot in the dark. Hoping it was not all wishful thinking, he finished the sentence for her: "Because your organization is working for a return to Earth, and you want us two to go, soon."

Evlyn looked up at him sharply, and he could not read her expression. Mildred Robertson's face spelled, plainly enough, eager assent: but again she was restrained from speaking.

Creeden said, "You may have noticed that this room is on the very outside of the dome. Mildred got it for that very reason. It's not only on the outside, it's on the eastern face, the side toward the spaceport. From that room in back of Mildred, there's a little passage through the inner shells, through the insulation, to the outer shell. At the end of the passage, there is a ring of explosive lithium capsules set into the outer shell; there's a welding set to repair the outer shell should we ever . . . er . . . make a breach in it; and there are several spacesuits. Everything's set up for someone to make his escape from the dome, cross the two hundred meters or so to the spaceport, and stow away on an outbound ship. We know how the stowing-away can be accomplished; we've even got hold of some acceleration dope."

"Am I right, Tony?" said Jack, more diffidently this time. "Do you want us to be the first?"

"We don't know who is going first," was the answer. "Why should you?"

Mildred Robertson asked, "Do you want to go?"

Jack noticed in passing that this was the same apparently superfluous question Creeden had put before, but both he and Evlyn answered quickly, "Yes." They exchanged smiles at the accident of speaking together: amused smiles, but very determined smiles.

"Mildred," Tony Creeden put in, "don't you want to reconsider? It's only fair to tell them—" Art Rand lifted his hand and Creeden stopped.

Mildred said to Jack and Evlyn, "Then you shall go. The FB-916 will leave again for Earth in . . when does it leave, Tony?"

"Between nine and ten hours, depending on how fast they unload her and load her up," was the laconic answer.

"Ten hours from now you'll be on your way."

Amazed happiness made a blurring

in Jack's eyes. He looked over at Evlyn and again they smiled quietly together, and the blurring became a little harder to control. In Jack's mind formed the old picture. himself, Jack Rowell, surrounded by *green,* the strange green, the living green of the far world which was his dream's goal. He didn't have complete mastery over the picture; sometimes it would close the green around him, in walls and ceiling such as he knew here. He could abolish the ceiling by substituting the starry night sky. The sky of Earth's day he could not imagine.

Oh, Jack did not lose himself in daydreams. He heard and remembered all Mildred Robertson's instructions: how to don the spacesuits; how to leave the dome, cross the plain to the spaceport, and enter the port; when inside, how to avoid the tunnel which was the usual means of reaching the spaceport; where on the ship to stow away—she knew all the details, even to the stowage of the cargoes,—and more. He heard and understood.

But always at the back of his mind was the imagined sight and sound of Earth, and the scoffing thought,

"You don't need to keep imagining now, Jack. This is real."

They slept in Mildred Robertson's home, in the room next to the passage.

Jack had a dim dream in which Creeden quarreled with Robertson and ended by shooting at her the one word, "Murderer!" Then he thought it might have been more than a dream, for he was awake and Evlyn was calling, in the voice of a small child, "Jack, I'm afraid." She came to him and lay weeping softly, her head on his chest.

Much later Jack awoke again, to hear a strange voice in the next room saying, "—and he told us there was an excessive heat loss from this part of Level 1 and the guards would have to check the insulation. My cell captain told me once that if that ever happened I should—"

"Yes," came Mildred Robertson's voice, sounding suddenly weary, "you did right to let me know. When will the guards arrive?"

"They will start checking almost immediately. I don't know how long it will take them to get here."

"All right. Go to Art Rand, Level 5, Number E626; tell him what you've told me. Remember not to mention it to anyone else except—once—to your cell captain. You can go now.

"Good work," she finished.

Awkwardly, "Thank you"; and the smooth swish and thud of the door's closing told that the stranger was gone.

Jack was already fully dressed, and now he slipped into the room where Robertson sat, and stood before her. She raised her head, slowly. "You heard that?"

"Yes."

"You know what it means?"

"Maybe."

"It means that if you two stay here you may be dead today. As far as you're concerned, that's essentially the whole story. You can take your choice. You stay, and maybe you'll make that ship, maybe you'll be caught. Or you can leave; there's still time for you to be at work this morning as usual, with no one the wiser. Miss Winters?"

Jack followed her eyes; Evlyn stood in the doorway behind him. "What—?" she said sleepily.

Mildred Robertson repeated to her the things Jack had heard. Evlyn asked her, "What about you?"

"Hm-m-m!" she chuckled mirthlessly. "Yes, what about me. They're sure to find our little passage through the dome eventually. Altogether, it may be a week before they kill me. Probably less. Possibly I might get away."

Jack realized for the first time how hard it would be to hide or to adopt a disguise in the isolated and well-policed domes of Titan. Once you were marked by the guards, you'd have a hard time avoiding them. He said nothing.

"Well, let Art and Tony and me worry about that. What are you two going to do?"

Jack was startled: he'd forgotten the question still needed answering. Evlyn frowned briefly. But her vague fears of a few hours before seemed

to have been dispelled by this concrete threat. She nodded toward the passage entrance. "Earth," she said, with more firmness than even Jack felt. She looked appealingly at Jack, who said, "Of course."

Mildred Robertson had been sitting, chin in hand, like a despondent statue. She shook her head, roused herself with visible effort, and led the way into the back room they had just left. Once she was moving, her despair seemed to leave her, and she resumed her energetic manner of the night before. She led the way to the wall which was the innermost shell of the dome. In the wall you could just make out the shape of a small door. She worked a catch, the door opened, and all three of them ducked into the blackness of the passageway.

Around them were the plastic layers of the insulation, unseen but occasionally brushed against by a hand in passing. The narrow doors through which they went were entranceways through the successive metal shells which incased almost the whole dome. The normal exit was by tunnel, so only at the observatory was the smooth regularity of the shells' perfect spheroids broken—at the observatory, and here.

The last door they passed through was carefully fitted to serve as an air lock port. Jack could tell by the sound as it closed behind them. That should mean that the next shell was the last, so that this space they were now in must serve as the air lock when one left the dome into the vacuum outside.

Robertson's next words confirmed his guess. "The next door," she said, "you'd better not open till you're ready to leave. Breathing might become rather difficult. Here are your spacesuits. You might put them on now; you'll have to stay here, and as you've noticed it's rather cold." That very distinct understatement somehow gave away the fact that her casual tone was assumed. Whatever else she was, she was not calm.

She finished, "If the guards don't come, I'll be in again before you—go. But the guards might come. If you hear someone inside who fumbles around with the catch on the door and doesn't open it right away—then it's the guards, not me; get out." She was by now quite thoroughly chilled, and thoroughly glad to leave.

Jack and Evlyn groped their way into spacesuits, closing face plates and chest flaps but leaving their air masks open. Already invisible to each other, they were now partially inaudible; the porous air masks would deaden any sound to a whisper.

They scooped up two little piles of insulation, sat down on opposite sides of the passage, and waited for their eyes to become accustomed to the darkness. This, their eyes would not do, for here there was *no* light. Jack's eyes tricked him, scrawled meaningless red splotches on the blank darkness; that was all.

After a while it occurred to them to turn on their communicator sets.

Evlyn said, "I *am* afraid, Jack."

Jack couldn't answer: he was silenced by an abrupt suspicion of her. Suspicion that she would not go through with this, that she had never really shared the dream.

She went on, "I'm afraid, and last night I thought we shouldn't try to go. But then I saw that staying here wouldn't be—possible. Not any more. It was possible before, but not now that we've been offered a chance to leave."

Anything Jack could have said would have been inadequate.

They sat there listening to the sound of their own breathing, and to a surrounding silence like that of outer space.

"Listen!" said Evlyn, and momentarliy cracked her face plate. "Yes, I thought I heard something."

Both of them closed air masks and started the suits' air supply, ready to leave the dome if necessary. But the inner door immediately began to move under Jack's hand, and he knew it was Robertson coming. He couldn't see her, nor could he hear her with his suit sealed, yet he could feel her presence as she entered, and another's. He opened his face plate and heard her voice: "It's about time for you to go, according to Tony. The guards haven't arrived yet, but we don't know when they may. Oh, this is Art Rand with me; I don't know if you can see him."

As a matter of fact, Jack had found that he could see a little; the newcomers had left all the doors open behind them, admitting a little light. He could see faintly the stooped, worried Robertson; the fat, placid Rand; and a hulking robot that was the spacesuited Evlyn.

They all stood silent, conscious of the situation. Jack started a pitiful attempt at formal thanks to Robertson and Rand. The latter cut him short: "Don't thank us, Rowell. Good luck to you." It was the first time Jack had heard his voice, and it was the most sincere and friendly voice Jack had ever heard.

Suddenly Evlyn said, "Miss Robertson, if you're in such danger here, why can't you get away along with us? You—"

"No; no," was the quick answer.

"Why not? Both of you—because if you're found here, Mr. Rand, you'll be as badly off as she is. It's the only safe thing for you to do."

"It's not the best—" She was interrupted by a low cry from Rand. Looking down the passage, Jack thought he saw a flickering glow on the wall where it took a bend. Then against the glow was silhouetted the retreating figure of Art Rand. Mildred Robertson whispered swiftly, "You're a little early, but better get to the ship as fast as you can just the same"; she followed Rand into the darkness, and, presumably, into the hands of the guards.

Jack had no time to be puzzled. There was the urgent business of their own escape. He and Evlyn had set off the explosive caps which cracked the outer shell before Robertson had completely closed the door behind her; air pressure pulled the door shut with a swift *thlook,* and popped a section of the outer shell. The two spacesuited figures stepped through the breach from darkness into Saturn-light.

At first they could see nothing but all-pervading radiance, but Jack had

the presence of mind to lead Evlyn along the shell until they were out of sight around the curve of the dome. After a while they were able to look around them.

It was the first time Jack had ever stood on the ground! It was strange to think of walking a floor so uneven and so wide in every direction. It was strange to think of walking freely under the stars. So strange was it that part of Jack's picture of Earth seemed realized right there.

The spaceport was about two hundred meters away, almost between them and Saturn; were they to move some meters to the right they would see it silhouetted against the giant disk. As it was, they could just make out the port's pillbox-shaped buildings. Projecting upward above the largest was the aspiring cylindrical bow of the spaceship.

They started eastward, watching the outline of the ship swell forward into the sky as they drew nearer it.

As soon as he was used to the rough footing, Jack looked back over his shoulder. The plain looked very different when you faced away from Saturn; the irregularities made a confusing pattern of streaked light and dark. And to see the dome from the outside, this dully, smoothly glinting metal egg that had been their universe — this itself was almost frightening in its novelty. He spoke into his communicator set, telling Evlyn to turn around and look. They had time to spare for this sight they had never seen before nor would again. Hadn't they been told they were early for the ship's take-off?

So they stopped and turned—and saw a spacesuited figure emerge from the hole by which they had left.

Jack, realizing Evlyn and he were probably silhouetted against Saturn, as seen from the dome, pulled the girl down to the ground beside him. Calmly, Evlyn said, "Yes, I see. Do you think it's the guards? We've got guns, you know." They both pulled their weapons — old rocket pistols, firing missiles as large as fists. There were twin tubes slanting outward and backward from the combustion chamber, to carry the initial blast away to the sides, so you could hold the weapon in front of you like a pistol to aim it.

The guns might not have been used since the dome was built, but they should work. Jack had leveled his sights on the figure at the base of the dome when Mildred Robertson's voice sounded coolly in his ears: "Don't shoot." Of course! That was who it was. And her communicator was tuned to theirs. The voice went on, "Don't wait for me. I'll follow you to the ship if I can make it, but don't—"

Jack and Evlyn interrupted her almost simultaneously. "Look! Someone else is coming out of the air lock." In fact, not one, but two, bulging spacesuits had appeared.

Mildred Robertson said calmly, "That'll be Art," and turned around in time to get a bullet in the face and one in the belly. The first was explosive. Her suit deflated instantaneously and settled to the ground with her dead flesh inside it.

Jack fired twice, then jumped to his feet and ran. Evlyn was still

firing, but followed quickly. They ran, not toward the spaceport, but at an angle to the right, so as to get out of the direct line from the dome to Saturn. When Jack judged they'd gone far enough to be safe, he called a halt. They cut toward the spaceport then, at the habitual loping five-meter stride that is the walk of the Titanian. Once Jack tripped on an unseen obstacle, but on Titan a fall hardly decreases your speed at all.

They were quite close to their goal when suddenly Jack's shadow leaped forth on the ground in front of him. A searchlight from behind! Shoving Evlyn sharply to the left, he ducked to the right himself, and, when he was out of the beam, let the weak gravity pull him down to a sprawled-out landing.

Evlyn wasn't in sight. Had she escaped the beam before she was hit? The lines of faint fire which arrowed past above him at intervals were, he knew, rocket projectiles like those in his own weapon. Some of them exploded when they hit the ground far beyond, but, of course, he couldn't hear them.

He tried to locate the searchlight. It wasn't easy, because there was no air out of here to reveal the path of the beam; but the light was just about where he'd expected, and soon he made it out.

"Evlyn?" he said into his mike, breaking the intolerable silence.

"Yes?" came the voice in his ears.

"You O.K.?"

"Yes. How about you?"

"O.K. so far. Look, let's shoot at the light."

"I see it. Yes, all right."

That was all, yet now they were fighting side by side instead of being isolated on the vast hostile plain. Jack fired several times. The guards' fire at him became abruptly more accurate, and the searchlight began to swing to the right. That was O.K.; if it was on him it couldn't be on Evlyn. Then he was directly in its path, and its reflector became a blinding little sun and a perfect target. Miraculously, he got it, and slid behind the barely adequate cover of a rock before the guards' shots could find him.

Evlyn was still shooting. "Wait, Evlyn," he said. "Hold your fire for half a minute. Without their light they'll forget exactly where you are; remember, they're looking toward Saturn so they can't make out the features of the ground as well as we can. Then we can run for the port."

"I'm out of ammunition anyway."

Jack waited silently, patiently, looking up at the same stars he'd seen and yearned for fifteen years ago. The "Sky Room."

Evlyn, somewhere out of sight, whispered in his ear, "Do you think we'll make it, Jack."

"I don't know," he said, attempting a matter-of-fact tone. "Are they coming after us?"

"I haven't seen them, but they probably are."

"Let's start. We're pretty close to the port, we'd just as well run as crawl. Let's go."

He sprang erect himself, and ran zigzag toward where the shape of the waiting spaceship cut a corner out of Saturn. Around him apppeared the

momentary fiery traces of the small rocket-bullets which sped by him unheard. All missed him. Twenty meters from a spaceport entrance he again stopped and took cover. That was the entrance he could safely use —unless guards had been sent to cover it by those who had seen him and Evlyn. He'd have to chance that.

Best for the two of them to rush the entrance together. He called, "You O.K.?"

He waited anxiously. "You O.K., Evlyn?"

Silence. He strained to hear the sound of her breathing, heard only his own. Then he got his answer: a short, strangled cough.

He looked around him. She had been heading for the same entrance as he, so she should be nearby. He caught a glint from something over to the left, faced around. There she lay. He crawled to her.

Behind her face plate, above the monstrously machinelike body of her spacesuit, her small face seemed disembodied, ethereal in the starlight. But the eyes that looked from the face—

Jack squatted beside her. "Where are you hit?"

The eyes moved downward, as if pointing. Jack saw that her right hand was pressed to her side. Probably she was stopping the hole in her spacesuit.

"Down there on your side?"

Almost inaudibly, "Yes."

Jack watched in anguish, not trusting himself to speak further. What could he do? There was no haven for her back there in the dome. They'd have to go ahead. He looked over his shoulder at where the distant dome occulted stars. Somewhere between there and here guards might be coming toward them. He'd almost forgotten about the guards.

"We've got to try to make the ship," he said unsteadily. "I've got to carry you."

She seemed to be nodding. He bent to lift her, but set her down again in horror. It must have been pain that had made her writhe so suddenly and so terribly, yet she had made no sound. Either that or her communicator's mike wasn't working. When she'd spoken, before, he'd scarcely heard it.

He looked again at her face as she lay there. She was smiling!

Then she coughed terribly, and her face disappeared. The face plate was covered with blood. Jack's brain registered the fact that Evlyn's mike wasn't working, for he hadn't heard the cough; and the fact that Evlyn was dying. Register the facts was all he could do. He felt burned out inside.

He registered the fact that Evlyn's spacesuit was deflating. Deduction: her hand was not on the hole. Therefore: he must stop the leak. Second deduction: she was unconscious. Therefore: he could carry her without her feeling pain.

Blinded and mad, reckless of the fire of the guards behind him, gingerly carrying the inert bundle that was a wounded human being, Jack Rowell raced to the spaceport entrance. After that his brain automatically followed the directions given it so long before: down this corridor, through this hatch—He didn't think.

When he was safely in the prescribed compartment of the ship, he administered the acceleration dope to himself and Evlyn. If the guards found them before the ship took off, he'd rather be under the dope than awake. He wouldn't want to know about it just then.

"I finally got him on the visor," Jack said wearily, the Earth slang sounding strange on his lips. "The Secretary himself. I tried to make him listen, but no soap."

"What did he say?" Evlyn was too weak to lift her head from the pillows.

"Just what his assistants said. He seemed surprised I should ask him about it. I'd try to argue with him and he'd repeat what he said before, as if he thought I hadn't understood. It was as good a way of stalling me off as any, I suppose." He made a hopeless gesture. There was no reply from Evlyn.

We must make a strange picture, Jack thought for the hundredth time since their arrival on Earth. Shockingly tall, head and shoulders above everyone else — when we stand upright. Evelyn lying, cramped, in the hospital's longest bed, I leaning back in a wheelchair that had to be specially made. Freaks. So the Secretary must have thought this afternoon: That bean-pole yokel, that freak.

Aloud, "No, he wouldn't even discuss it with me. Said Titan's produce wasn't useful any more, so Earth wouldn't use it any more. Didn't know where the Titanians could go; all the other colonial planets have been abandoned except Mars and Venus. And he didn't care."

"Where *can* they go, Jack? Where can *we* go?"

He answered the first question. "They can't come here, that's certain."

Evlyn shuddered assent.

"Mars, maybe." Jack pulled himself up from the chair with great effort, leaned against its back to catch his breath. Consciously imitating the Earthmen's short, awkward steps, he stumped across the room to the window, and looked out, his eyes slitted against the piercing fire of the May sunshine, the agonizing glare of sun on Arizona sand. He stood there, torturing himself by looking as directly as he was able at the violent colors of hell.

"Do you think Tony knew?" he asked meditatively.

"He must have suspected better than anyone," said Evlyn slowly. "After all, he lived here; he knew how different Titan was."

"But not how different we were."

"No . . . Mildred Robertson suspected, and Art Rand."

"They knew most of it," said Jack, feeling no resentment against those who had damned him without warning, had withheld the warning Tony Creeden had wanted to give. The only concession they'd made to Tony had been to wait for Evlyn and Jack to volunteer, rather than asking them. Though Jack understood all this now, there was no resentment at all.

"They knew most of it," he repeated. "What was there to know? The gravity—they knew about that. They knew what we should have thought about ourselves: a child that grows up in a low gravity has long, thin bones; not a matter of heredity at all, but purely environment. I don't think they did know that that child's bones are also brittle, very brittle, and his muscles very weak.

"They didn't know," he went on savagely, still torturing himself, "that the first step I took on the new planet I'd fall and break my arm in too many places to count."

"No, they didn't, or they wouldn't have let us go," Evlyn said gently. "They wanted to find out. They wanted to send guinea pigs, and we were good choices."

"They'll find out all right, soon, without our telling them—when they have to abandon Titan and come here themselves."

"*They* won't," she reminded him.

"No; no. Not Robertson and Rand. The rest—some of the things, they couldn't have known. The air. Higher air pressure here, more oxygen, but also more nitrogen. They couldn't have guessed how bad that would be. It's just like the mental dullness that gets underwater divers on Earth when the pressure goes up too high. I don't spend twenty hours a day sleeping any more, but I feel slow and stupid. *And I am.* I can't remember. I can't think."

"I know." There was subdued horror in her voice.

"That's the worst of it. Then there are the infections — I've been relatively well for five days now, Evlyn, but it won't be long before I've got another of those diseases that Earth doctors never knew about. Children here develop lots of immunities early and painlessly, but the dome we were in was so nearly sterile we never needed those immunities; the minute we breathed this air everything hit us at once. At least that's what the doc told me. Your doctor might have a different explanation.

"And the *light* here. Of course it's just because our irises are almost atrophied, so our pupils can't contract to shut out enough of the brightness. Knowing the explanation doesn't help." He realized that while he'd been talking he'd let his lids drop. Brutally, he forced his eyes open, forced them to follow moving objects outside: a plane on the horizon, a copter circling above the hospital. The blue sky shimmered, the white clouds danced. Pain spilled forth inside him, stimulating his dulled brain.

Evlyn was speaking behind him. "Why are you saying all this, Jack?"

He shrugged foolishly. "Maybe because I got myself all ready to say it to the Secretary this afternoon and then got stalled before I got it off my chest. I don't think so, though. I think I'm saying it to see if I can change my own mind."

"Change your mind?"

"That's right. And I can't change it. I still feel the same. I'm still glad we're here." He made his struggling way back to the wheelchair and sank again into its supporting cushions. "No, not glad we're here. Not that exactly.

"Evlyn, when we were waiting on the plane outside the spaceport, just before you were . . . just before we got away . . . I thought for a while it was all pointless, our going out and taking the chances we took. It wasn't. It's not pointless, if the dream's big enough. And Earth was, then."

"Even if I had died?" She seemed to ask purely from curiosity.

"Even if one of us had died. On the ship, when each time I went to sleep I wondered if you'd be alive when I awoke. Even then it was worth it to me—"

"And to me. And after we got here, even though it was so different from what we expected. We *had* to come, Jack."

"That's it, Evlyn, that's it. I think you always saw this, but I'm just seeing it now: The dream *is* big enough, it still is, it was worth it to come here, it's worth it now. But what was it we wanted? Not any one planet. We thought it was that, but it was simply crossing space. All along, the journey was more important than the goal.

"And if the days we spent in the spaceship were torture, and the days since then, well, that's unimportant too. Just crossing space—"

"The sky's still there at night," murmured Evlyn.

"It's still there. It doesn't matter that Earth isn't in it any more. Alpha Centauri is. And Sirius. And the dream."

THE END.

BRASS TACKS

Edwards' little gag article seems to have been one of the most popular in a long time.

Dear Editor:

I read with considerable interest the article "Meihem in ce Klasrum," by Dolton Edwards, which, although obviously written with tongue in cheek, made more sense than was at first reading apparent.

However, I should like to point out two inconsistencies in Mr. Edwards' last paragraph, which I am sure that he overlooked. First, the matter of the two sounds for "g." According to his own suggestions, only one sound should be represented by one letter. I would suggest retaining the present character "g" to represent the hard sound, and using the letter "j" for the soft sound. Thus, "knowledge" would be written as "nolej." Also, Mr. Edwards violated his own rule by using the character "u" as two different sounds, in "language" and in "tu." I would use the letter "w" in the former instance, as "langwaj."—Jack D. Rodgers, 225 27th Street, San Bernardino, Calif.

There must be some fancy control problems!

Dear Mr. Campbell:

That was a pretty interesting letter of Mr. Shelton's that you published. A few months back there was a story published on the V-2—(which the Germans incidentally called the A-4)—and among the pictures was one of the track in the sky corresponding to Mr. Shelton's description. The caption said the crookedness was caused by winds. I have seen only one other photograph and there the track was nearly straight.

I happen to have access to certain reports concerning the construction and operation of the V-2. They are marked secret so I can't say what is in them. I can say, however, that I found nothing in them that would explain the crooked track. However, I am a chemist and not an engineer so perhaps I missed something.

I have a theory to explain the irregularity, but I'm not at all sure that it is correct. The control system has a rapid response to short

period oscillations of the rocket so that it may be that once an oscillation is set up, the controls either overcompensate or the rocket is carried past the neutral point by its own inertia. This causes the control gyros to move the vanes in the jet stream and the tabs at the outer corners of the tail so as to make the rocket back to the neutral point and the cycle is repeated again and again, at least until the motor ceases to function. After it is stopped no further control is exerted.

I notice that the last half of the trail in the picture is relatively straight. Due to increasing Mach number, the effectiveness of the vanes drops to about half its former value at a certain velocity of the rocket. This would seem to indicate that the ragged trail is due in part at least to overcompensation of the control surfaces. Once their effectiveness is reduced, they compensate for irregularities in flight more correctly and the track becomes straight.

I don't agree that dwi-cesium and dwi-iodine would react violently. Synthetic eka-iodine is already well on the metallic side so that dwi-iodine would be definitely a metal. The only metals I know of that get violent when they meet are mercury and the alkali metals. I suspect a pound or so of dwi-cesium could get pretty violent all by itself. We have: Li—relatively stable in air; Na—ozidizes in air, decomposes water rather quietly; K—inflames in water; Cs—inflames in air. By the time you get dwi-cesium you should have something that will explode in air.—John Buddhue, 99 South Raymond Avenue, Pasadena 2, California.

Rate away—everybody's welcome!

Dear Sir:

May I try a hand at this rating game?

1. "Command." The resolution was a bit simple, and it seems to me spaceships have carried their own gardens before, but the writing held together nicely, and there seemed to be no harsh notes in the entire story.

2. "Bad Patch." A dangerous idea for a story, but for me it came off, partially because I was looking for December 7, 1941 to change the ideas of Lloral. And probably his idea was right — the machine makes the difference.

3. "Tomorrow And Tomorrow." This would have been better if the introduction had not been so long, and there was some confusion. And for a society that was against new ideas or research, there seemed to be plenty of renegades.

4. "Housing Shortage." In such a setup, would breaking windows let one enter into the right house, when only the door was so designed? My sympathy was won because the inventor couldn't think of anything better to do with his idea than earn more rent.

5. "Sinecure." With machines as complicated as those, and as numerous, there would have been technicians around, or at least repairmen, not just the three men. But the plot twist was nice.

6. "The Undamned." This story

was talked to death. Conversation is all right, but not in the face of atomic bombs with difficult fuses. Besides, if I could make a detonator that would go off to certain thought patterns, I could make one that would respond to the presence of a pretty gray-eyed brunette at ranges up to five miles—and not be taken in by any "Gay Deceivers."

7. "Time to Die." I just couldn't get interested, maybe because the illustration foretold the ending.—Alderson Fry, 4055 9th, N.E., Seattle 5, Washington.

The art department is really looking up! Cartier—Orban—Schneeman—Rogers—all back!

Dear Mr. Campbell:

Just got my January ASF and had to dash off a note immediately to congratulate you on getting Cartier back. His three pics were a welcome sight after these last few dismal years of poor art in the magazine.

It's also good to see Orban back.

Let's give Cartier the entire mag to illustrate, or nearly all with a possible few pix by Orban.

Is it true that we fans who have waited so long are going to get *Unknown* back at last? — Richard A. Frank, 342 Susquehanna Street, Williamsport 15, Pennsylvania.

Alejandro will be back—and with a cover style totally different from anything you've seen!

Dear Mr. Campbell:

This letter is being written with the express purpose of commenting on a few points in the DECEMBER issue of ASF.

First and foremost I would like to give three rousing cheers for the change of cover artists. Not only is Timmins off the cover but Alejandro seems to have a style of great promise. There is a weird atmosphere about the "Metamorphosite" that makes your scalp crawl. Give the guy some more covers to do instead of reverting back to Timmins as I see you have on the next cover.

Next we come to the feature story, and an excellent story it is, too. In fact, it rises above the usual run of feature stories like "World Of A" does in comparison to "Slaves of the Lamp." And the ending was certainly unexpected in its dramatic intensity. But why go on—surely the voters will bear me out.

And for my selections as to first, second, and third place . . .

1. "Metamorphosite," by Eric Frank Russell.

2. "For the Public," by Bernard I. Kahn. For a new author he's tops!

3. "Hand of the Gods," by A. E. vanVogt. Clane's quite a guy.

4. "Time Enough," by Lewis Padgett. Padgett could have done much better.

5. "The Impossible Pirate," by George O. Smith. Maybe it's me, maybe it's purely personal preference but G. O. Smith seems strictly a last-place author — not once but always.—Joseph B. Baker,

E FOR EFFORT

A new author brings a new idea of how to use a time-viewing machine. But there's one thing wrong with time-viewers; they may work perfectly technically, but in human society they're deadly weapons!

Illustrated by Tiedeman

BY T. L. SHERRED

The captain was met at the airport by a staff car. Long and fast it sped. In a narrow, silent room the general sat, ramrod-backed, tense. The major waited at the foot of the gleaming steps shining frostily in the night air. Tires screamed to a stop and together the captain and the major raced up the steps. No words of greeting were spoken. The general stood quickly, hand outstretched. The captain ripped open a dispatch case and handed over a thick bundle of papers. The general flipped them over eagerly and spat a sentence at the major. The major disappeared and his harsh voice rang curtly down the outside hall. The man with glasses came in and the general handed him the papers. With jerky fingers the man with glasses sorted them out. With a wave from the general the captain left, a proud smile on his weary young face. The general tapped his fingertips on the black glossy surface of the table. The man with glasses pushed aside crinkled maps, and began to read aloud.

Dear Joe:

I started this just to kill time, because I got tired of just looking out the window. But when I got almost to the end I began to catch the trend of what's going on. You're the only one I know that can come through for me, and when you finish this you'll know why you must.

I don't know who will get this to you. Whoever it is won't want you to identify a face late Remember that, and please. Joe—*hurry!*

Ed

It all started because I'm lazy. By the time I'd shaken off the sandman and checked out of the hotel every

seat in the bus was full. I stuck my bag in a dime locker and went out to kill the hour I had until the next bus left. You know the bus terminal; right across from the Book-Cadillac and the Statler, on Washington Boulevard near Michigan Avenue. Michigan Avenue. Like Main in Los Angeles, or maybe Sixty-third in its present state of decay in Chicago, where I was going. Cheap movies, pawnshops and bars by the dozens, a penny arcade or two, restaurants that feature hamburg steak, bread and butter and coffee for forty cents. Before the War, a quarter.

I like pawnshops. I like cameras, I like tools, I like to look in windows crammed with everything from electric razors to sets of socket wrenches to upper plates. So, with an hour to spare, I walked out Michigan to Sixth and back on the other side of the street. There are a lot of Chinese and Mexicans around that part of town, the Chinese running the restaurants and the Mexicans eating Southern Home Cooking. Between Fourth and Fifth I stopped to stare at what passed for a movie. Store windows painted black, amateurish signs extolling in Spanish "Detroit premiere . . . cast of thousands . . . this week only . . . ten cents—" The few 8x10 glossy stills pasted on the windows were poor blowups, spotty and wrinkled; pictures of mailed cavalry and what looked like a good sized battle. All for ten cents. Right down my alley.

Maybe it's lucky that history was my major in school. Luck it must have been, certainly not cleverness, that made me pay a dime for a seat in an undertaker's rickety folding chair imbedded solidly—although the only other customers were a half-dozen Sons of the Order of Tortilla—in a cast of second-hand garlic. I sat near the door. A couple of hundred watt bulbs dangling naked from the ceiling gave enough light for me to look around. In front of me, in the rear of the store, was the screen, what looked like a white-painted sheet of beaverboard, and when over my shoulder I saw the battered sixteen millimeter projector I began to think that even a dime was no bargain. Still, I had forty minutes to wait.

Everyone was smoking. I lit a cigarette and the discouraged Mexican who had taken my dime locked the door and turned off the lights, after giving me a long, questioning look. I'd paid my dime, so I looked right back. In a minute the old projector started clattering. No film credits, no producer's name, no director, just a tentative flicker before a closeup of a bewhiskered mug labeled Cortez. Then a painted and feathered Indian with the title of Guatemotzin, successor to Montezuma; an aerial shot of a beautiful job of model-building tagged Ciudad de Mejico, 1521. Shots of old muzzle-loaded artillery banging away, great walls spurting stone splinters under direct fire, skinny Indians dying violently with the customary gyrations, smoke and haze and blood. The photography sat me right up straight. It had none of the scratches and erratic cuts that characterize an old print, none of the fuzziness, none

of the usual mugging at the camera by the handsome hero. There wasn't any handsome hero. Did you ever see one of these French pictures, or a Russian, and comment on the reality and depth brought out by working on a small budget that can't afford famed actors? This, what there was of it, was as good, or better.

It wasn't until the picture ended with a pan shot of a dreary desolation that I began to add two and two. You can't, for pennies, really have a cast of thousand, or sets big enough to fill Central Park. A mock-up, even, of a thirty-foot fall costs enough to irritate the auditors, and there had been a lot of wall. That didn't fit with the bad editing and lack of sound track, not unless the picture had been made in the old silent days. And I knew it hadn't by the color tones you get with pan film. It looked like a well-rehearsed and badly-planned newsreel.

The Mexicans were easing out and I followed them to where the discouraged one was rewinding the reel. I asked him where he got the print.

"I haven't heard of any epics from the press agents lately, and it looks like a fairly recent print."

He agreed that it was recent, and added that he'd made it himself. I was polite to that, and he saw that I didn't believe him and straightened up from the projector.

"You don't believe that, do you?" I said that I certainly did, and I had to catch a bus. "Would you mind telling me why, exactly why?" I said that the bus— "I mean it. I'd appreciate it if you'd tell me just what's wrong with it."

"There's nothing wrong with it," I told him. He waited for me to go on. "Well, for one thing, pictures like that aren't made for the sixteen millimeter trade. You've got a reduction from a thirty-five millimeter master," and I gave him a few of the other reasons that separate home movies from Hollywood. When I finished he smoked quietly for a minute.

"I see." He took the reel off the projector spindle and closed the case. "I have beer in the back." I agreed beer sounded good, but the bus— well, just one. From in back of the beaverboard screen he brought paper cups and a Jumbo bottle. With a whimsical "Business suspended" he closed the open door and opened the bottle with an opener screwed on the wall. The store had likely been a grocery or restaurant. There were plenty of chairs. Two we shoved around and relaxed companionably. The beer was warm.

"You know something about this line," tentatively.

I took it as a question and laughed. "Not too much. Here's mud," and we drank. "Used to drive a truck for the Film Exchange." He was amused at that.

"Stranger in town?"

"Yes and no. Mostly yes. Sinus trouble chased me out and relatives bring me back. Not any more, though; my father's funeral was last week." He said that was too bad, and I said it wasn't. "He had sinus, too." That was a joke, and he re-

filled the cups. We talked awhile about Detroit climate.

Finally he said, rather speculatively, "Didn't I see you around here last night? Just about eight." He got up and went after more beer.

I called after him. "No more beer for me." He brought a bottle anyway, and I looked at my watch. "Well, just one."

"Was it you?"

"Was it me what?" I held out my paper cup.

"Weren't you around here—"

I wiped foam off my mustache. "Last night? No, but I wish I had. I'd have caught my bus. No, I was in the Motor Bar last night at eight. And I was still there at midnight."

He chewed his lip thoughtfully. "The Motor Bar. Just down the street?" and I nodded. "The Motor Bar. Hm-m-m." I looked at him. "Would you like . . . sure, you would." Before I could figure out what he was talking about he went to the back and from behind the beaverboard screen rolled out a big radio-phonograph and another Jumbo bottle. I held the bottle against the light. Still half full. I looked at my watch. He rolled the radio against the wall and lifted the lid to get at the dials.

"Reach behind you, will you? The switch on the wall." I could reach the switch without getting up, and I did. The lights went out. I hadn't expected that, and I groped at arm's length. Then the lights came on again, and I turned back, relieved. But the lights weren't on; I was looking at the street!

Now, all this happened while I was dripping beer and trying to keep my balance on a tottering chair—the street moved, I didn't and it was day and it was night and I was in front of the Book-Cadillac and I was going into the Motor Bar and I was watching myself order a beer and I knew I was wide awake and not dreaming. In a panic I scrabbled off the floor, shedding chairs and beer like an umbrella while I ripped my nails feeling frantically for that light switch. By the time I found it—and all the while I was watching myself pound the bar for the barkeep—I was really in fine fettle, just about ready to collapse. Out of thin air right into a nightmare. At last I found the switch.

The Mexican was looking at me with the queerest expression I've ever seen, like he'd baited a mousetrap and caught a frog. Me? I suppose I looked like I'd seen the devil himself. Maybe I had. The beer was all over the floor and I barely made it to the nearest chair.

"What," I managed to get out, "what was that?"

The lid of the radio went down. "I felt like that too, the first time. I'd forgotten."

My fingers were too shaky to get out a cigarette, and I ripped off the top of the package. "I said, what was that?"

He sat down. "That was you, in the Motor Bar, at eight last night." I must have looked blank as he handed me another paper cup. Automatically I held it out to be refilled.

"Look here—" I started.

"I suppose it is a shock. I'd forgotten what I felt like the first time

I . . . I don't care much any more. Tomorrow I'm going out to Phillips Radio." That made no sense to me, and I said so. He went on.

"I'm licked. I'm flat broke. I don't give a care any more. I'll settle for cash and live off the royalties." The story came out, slowly at first, then faster until he was pacing the floor. I guess he was tired of having no one to talk to.

His name was Miguel Jose Zapata Laviada. I told him mine; Lefko. Ed Lefko. He was the son of sugar beet workers who had emigrated from Mexico somewhere in the Twenties. They were sensible enough not to quibble when their oldest son left the back-breaking Michigan fields to seize the chance provided by a NYA scholarship. When the scholarship ran out, he'd worked in garages, driven trucks, clerked in stores, and sold brushes door-to-door to exist and learn. The Army cut short his education with the First Draft to make him a radar technician, the Army had given him an honorable discharge and an idea so nebulous as to be almost merely a hunch. Jobs were plentiful then, and it wasn't too hard to end up with enough money to rent a trailer and fill it with Army surplus radio and radar equipment. One year ago he'd finished what he'd started, finished underfed, underweight, and overexcited. But successful, because he had it.

"It" he installed in a radio cabinet, both for ease in handling and for camouflage. For reasons that will become apparent, he didn't dare apply for a patent. I looked "it" over pretty carefully. Where the phonograph turntable and radio controls had been were vernier dials galore. One big one was numbered 1 to 24, a couple were numbered 1 to 60, and there were a dozen or so numbered 1 to 25, plus two or three with no numbers at all. Closest of all it resembled one of these fancy radio or motor testers found in a super super-service station. That was all, except that there was a sheet of heavy plywood hiding whatever was installed in place of the radio chassis and speaker. A perfectly innocent cache for—

Daydreams are swell. I suppose we've all had our share of mental wealth or fame or travel or fantasy. But to sit in a chair and drink warm beer and realize that the dream of ages isn't a dream any more, to feel like a god, to know that just by turning a few dials you can see and watch anything, anybody, anywhere, that has ever happened — it still bothers me once in a while.

I know this much, that it's high frequency stuff. And there's a lot of mercury and copper and wiring of metals cheap and easy to find, but what goes where, or how, least of all, why, is out of my line. Light has mass and energy, and that mass always loses part of itself and can be translated back to electricity, or something. Mike Laviada himself says that what he stumbled on and developed was nothing new, that long before the war it had been observed many times by men like Compton and Michelson and Pfeiffer, who discarded it as a useless

laboratory effect. And, of course, that was before atomic research took precedence over everything.

When the first shock wore off—and Mike had to give me another demonstration — I must have made quite a sight. Mike tells me I couldn't sit down. I'd pop up and gallop up and down the floor of that ancient store kicking chairs out of my way or stumbling over them, all the time gobbling out words and disconnected sentences faster than my tongue could trip. Finally it filtered through that he was laughing at me. I didn't see where it was any laughing matter, and I prodded him. He began to get angry.

"I know what I have," he snapped. "I'm not the biggest fool in the world, as you seem to think. Here, watch this," and he went back to the radio. "Turn out the light." I did, and there I was watching myself at the Motor Bar again, a lot happier this time. "Watch this."

The bar backed away. Out in the street, two blocks down to the City Hall. Up the steps to the Council Room. No one there. Then Council was in session, then they were gone again. Not a picture, not a projection of a lantern slide, but a slice of life about twelve feet square. If we were close, the field of view was narrow. If we were further away, the background was just as much in focus as the foreground. The images, if you want to call them images, were just as real, just as lifelike as looking in the doorway of a room. Real they were, three-dimensional, stopped by only the back wall or the distance in the background. Mike was talking as he spun the dials, but I was too engrossed to pay much attention.

I yelped and grabbed and closed my eyes as you would if you were looking straight down with nothing between you and the ground except a lot of smoke and a few clouds. I winked my eyes open almost at the ends of what must have been a long racing vertical dive, and there I was, looking at the street again.

"Go any place up to the Heaviside Layer, go down as deep as any hole, anywhere, any time." A blur, and the street changed into a glade of sparse pines. "Buried treasure. Sure. Find it, with what?" The trees disappeared and I reached back for the light switch as he dropped the lid of the radio and sat down.

"How are you going to make any money when you haven't got it to start?" No answer to that from me. "I ran an ad in the paper offering to recover lost articles; my first customer was the Law wanting to see my private detective's license. I've seen every big speculator in the country sit in his office buying and selling and making plans; what do you think would happen if I tried to peddle advance market information? I've watched the stock market get shoved up and down while I had barely the money to buy the paper that told me about it. I watched a bunch of Peruvian Indians bury the second ransom of Atuahalpa; I haven't the fare to get to Peru, or the money to buy the tools to dig." He got up and brought two more

bottles. He went on. By that time I was getting a few ideas.

"I've watched scribes indite the books that burnt at Alexandria; who would buy, or who would believe me, if I copied one? What would happen if I went over to the Library and told them to rewrite their histories? How many would fight to tie a rope around my neck if they knew I'd watched them steal and murder and take a bath? What sort of a padded cell would I get if I showed up with a photograph of Washington, or Caesar? Or Christ?"

I agreed that it was all probably true, but—

"Why do you think I'm here now? You saw the picture I showed for a dime. A dime's worth, and that's all, because I didn't have the money to buy film or to make the picture as I knew I should." His tongue began to get tangled. He was excited. "I'm doing this because I haven't the money to get the things I need to get the money I'll need—" He was so disgusted he booted a chair halfway across the room. It was easy to see that if I had been around a little later, Phillips Radio would have profited. Maybe I'd have been better off, too.

Now, although always I've been told that I'd never be worth a hoot, no one has ever accused me of being slow for a dollar. Especially an easy one. I saw money in front of me, easy money, the easiest and the quickest in the world. I saw, for a minute, so far in the future with me on top of the heap, that my head reeled and it was hard to breathe.

"Mike," I said, "let's finish that beer and go where we can get some more, and maybe something to eat. We've got a lot of talking to do. So we did.

Beer is a mighty fine lubricant; I have always been a pretty smooth talker, and by the time we left the gin mill I had a pretty good idea of just what Mike had on his mind. By the time we'd shacked up for the night behind that beaverboard screen in the store, we were full-fledged partners. I don't recall our even shaking hands on the deal, but that partnership still holds good. Mike is ace high with me, and I guess it's the other way around, too. That was six years ago; it only took me a year or so to discard some of the corners I used to cut.

Seven days after that, on a Tuesday, I was riding a bus to Grosse Pointe with a full briefcase. Two days after that I was riding back from Grosse Pointe in a shiny taxi, with an empty briefcase and a pocketful of folding money. It was easy.

"Mr. Jones—or Smith—or Brown—I'm with Aristocrat Studios, Personal and Candid Portraits. We thought you might like this picture of you and . . . no, this is just a test proof. The negative is in our files. . . . Now, if you're really interested, I'll be back the day after tomorrow with our files. . I'm sure you will, Mr. Jones. Thank you, Mr. Jones. ."

Dirty? Sure. Blackmail is always dirty. But if I had a wife and family and a good reputation, I'd stick to the roast beef and forget

the Roquefort. Very smelly Roquefort, at that. Mike liked it less than I did. It took some talking, and I had to drag out the old one about the ends justifying the means, and they could well afford it, anyway. Besides, if there was a squawk, they'd get the negatives free. Some of them were pretty bad.

So we had the cash; not too much, but enough to start. Before we took the next step there was plenty to decide. There are a lot who earn a living by convincing millions that Sticko soap is better. We had a harder problem than that: we had, first, to make a salable and profitable product, and second, we had to convince many, many millions that our "Product" was absolutely honest and absolutely accurate. We all know that if you repeat something long enough and loud enough many—or most—will accept it as gospel truth. That called for publicity on an international scale. For the skeptics who know better than to accept advertising, no matter how blatant, we had to use another technique. And since we were going to get certainly only one chance, we had to be right the first time. Without Mike's machine the job would have been impossible; without it the job would have been unnecessary.

A lot of sweat run under the bridge before we found what we thought—and we still do!—the only workable scheme. We picked the only possible way to enter every mind in the world without a fight; the field of entertainment. Absolute secrecy was imperative, and it was only when we reached the last decimal point that we made a move. We started like this.

First we looked for a suitable building, or Mike did, while I flew east, to Rochester, for a month. The building he rented was an old bank. We had the windows sealed, a flossy office installed in the front —the bulletproof glass was my idea —air conditioning, a portable bar, electrical wiring of whatever type Mike's little heart desired, and a blond secretary who thought she was working for M-E Experimental Laboratories. When I got back from Rochester I took over the job of keeping happy the stone masons and electricians, while Mike fooled around in our suite in the Book where he could look out the window at his old store. The last I heard, they were selling snake oil there. When the Studio, as we came to call it, was finished, Mike moved in and the blonde settled down to a routine of reading love stories and saying no to all the salesmen that wandered by. I left for Hollywood.

I spent a week digging through the files of Central Casting before I was satisfied, but it took a month of snooping and some under-the-table cash to lease a camera that would handle Trucolor film. That took the biggest load from my mind. When I got back to Detroit the big view camera had arrived from Rochester, with a truckload of glass color plates. Ready to go.

We made quite a ceremony of it. We closed the Venetian blinds and

I popped the cork on one of the bottles of champagne I'd bought. The blond secretary was impressed; all she'd been doing for her salary was to accept delivery of packages and crates and boxes. We had no wine glasses, but we made no fuss about that. Too nervous and excited to drink any more than one bottle, we gave the rest to the blonde and told her to take the rest of the afternoon off. After she left —and I think she was disappointed at breaking up what could have been a good party—we locked up after her, went into the studio itself, locked up again and went to work.

I've mentioned that the windows were sealed. All the inside wall had been painted dull black, and with the high ceiling that went with that old bank lobby, it was impressive. But not gloomy. Midway in the studio was planted the big Trucolor camera, loaded and ready. Not much could we see of Mike's machine, but I knew it was off to the side, set to throw on the back wall. Not *on* the wall, understand, because the images produced are projected into the air, like the meeting of the rays of two searchlights. Mike lifted the lid and I could see him silhouetted against the tiny lights that lit the dials.

"Well?" he said expectantly.

I felt pretty good just then, right down to my billfold.

"It's all yours, Mike," and a switch ticked over. There he was. There was a youngster, dead twenty-five hundred years, real enough, almost, to touch. Alexander. Alexander of Macedon.

Let's take that first picture in detail. I don't think I can ever forget what happened in the next year or so. First we followed Alexander through his life, from beginning to end. We skipped, of course, the little things he did, jumping ahead days and weeks and years at a time. Then we'd miss him, or find that

he'd moved in space. That would mean we'd have to jump back and forth, like the artillery firing bracket or ranging shots, until we found him again. Helped only occasionally by his published lives, we were astounded to realize how much distortion has crept into his life. I often wonder why legends arise about the famous. Certainly their lives are as startling or appalling as fiction. And unfortunately we had to hold closely to the accepted histories. If we hadn't, every professor would have gone into his corner for a hearty sneer. We couldn't take that chance. Not at first.

After we knew approximately what had happened and where, we used our notes to go back to what had seemed a particularly photogenic section and work on that awhile. Eventually we had a fair idea of what we were actually going to film. Then we sat down and wrote an actual script to follow, making allowance for whatever shots we'd have to double in later. Mike used his machine as the projector, and I operated the Trucolor camera at a fixed focus, like taking moving pictures of a movie. As fast as we finished a reel it would go to Rochester for processing, instead of one of the Hollywood outfits that might have done it cheaper. Rochester is so used to horrible amateur stuff that I doubt if anyone ever looks at anything. When the reel was returned we'd run it ourselves to check our choice of scenes and color sense and so on.

For example, we had to show the traditional quarrels with his father, Philip. Most of that we figured on doing with doubles, later. Olympias, his mother, and the fangless snakes she affected, didn't need any doubling, as we used an angle and amount of distance that didn't call for actual conversation. The scene where Alexander rode the bucking horse no one else could ride came out of some biographer's head, but we thought it was so famous we couldn't leave it out. We dubbed the closeups later, and the actual horseman was a young Scythian that hung around the royal stables for his keep. Roxanne was real enough, like the rest of the Persian's wives that Alexander took over. Luckily most of them had enough poundage to look luscious. Philip and Parmenio and the rest of the characters were heavily bearded, which made easy the necessary doubling and dubbing-in the necessary speech. (If you ever saw them shave in those days, you'd know why whiskers were popular.)

The most trouble we had with the interior shots. Smoky wicks in a bowl of lard, no matter how plentiful, are too dim even for fast film. Mike got around that by running the Trucolor camera at a single frame a second, with his machine paced accordingly. That accounts for the startling clarity and depth of focus we got from a lens well stopped down. We had all the time in the world to choose the best possible scenes and camera angles; the best actors in the world, expensive camera booms, or repeated retakes under the most exacting director

can't compete with us. We had a lifetime from which to choose.

Eventually we had on film about eighty per cent of what you saw in the finished picture. Roughly we spliced the reels together and sat there entranced at what we had actually done. Even more exciting, even more spectacular than we'd dared to hope, the lack of continuity and sound didn't stop us from realizing that we'd done a beautiful job. We'd done all we could, and the worst was yet to come. So we sent for more champagne and told the blonde we had cause for celebration. She giggled.

"What are you doing in there, anyway?" she asked. "Every salesman who comes to the door wants to know what you're making."

I opened the first bottle. "Just tell them you don't know."

"That's just what I've been telling them. They think I'm awfully dumb." We all laughed at the salesmen.

Mike was thoughtful. "If we're going to do this sort of thing very often, we ought to have some of these fancy hollow-stemmed glasses."

The blonde was pleased with that. "And we could keep them in my bottom drawer." Her nose wrinkled prettily. "These bubbles— You know, this is the only time I've ever had champagne, except at a wedding, and then it was only one glass."

"Pour her another," Mike suggested. "Mine's empty, too." I did. "What did you do with those bottles you took home last time?"

A blush and a giggle. "My father wanted to open them, but I told him you said to save it for a special occasion."

By that time I had my feet on her desk. "This is the special occasion, then," I invited. "Have another, Miss . . . what's your first name, anyway? I hate being formal after working hours."

She was shocked. "And you and Mr. Laviada sign my checks every week! It's Ruth."

"Ruth. Ruth." I rolled it around the piercing bubbles, and it sounded all right.

She nodded. "And your name is Edward, and Mr. Laviada's is Migwell. Isn't it?" and she smiled at him.

"MiGELL," he smiled back. "An old Spanish custom. Usually shortened to Mike."

"If you'll hand me another bottle," I offered, "shorten Edward to Ed." She handed it over.

By the time we got to the fourth bottle we were as thick as bugs in a rug. It seems that she was twenty-four, free, white, and single, and loved champagne.

"But," she burbled fretfully, "I wish I knew what you were doing in there all hours of the day and night. I know you're here at night sometimes because I've seen your car out in front."

Mike thought that over. "Well," he said a little unsteadily, "we take pictures." He blinked one eye. "Might even take pictures of you if we were approached properly."

I took over. "We take pictures of models."

"Oh, no."

"Yes. Models of things and people and what not. Little ones. We make it look like it's real." I think she was a trifle disappointed.

"Well, now I know, and that makes me feel better. I sign all those bills from Rochester and I don't know what I'm signing for. Except that they must be film or something."

"That's just what it is; film and things like that."

"Well, it bothered me— No, there's two more behind the fan."

Only two more. She had a capacity. I asked her how she would like a vacation. She hadn't thought about a vacation just yet.

I told her she'd better start thinking about it. "We're leaving day after tomorrow for Los Angeles, Hollywood."

"The day after tomorrow? Why—"

I reassured her. "You'll get paid just the same. But there's no telling how long we'll be gone, and there doesn't seem to be much use in your sitting around here with nothing to do."

From Mike "Let's have that bottle," and I handed it to him. I went on.

"You'll get your checks just the same. If you want, we'll pay you in advance so—"

I was getting full of champagne, and so were we all. Mike was humming softly to himself, happy as a taco. The blonde, Ruth, was having a little trouble with my left eye. I knew just how she felt, because I was having a little trouble watching where she overlapped the swivel chair. Blue eyes, sooo tall, fuzzy hair. Hm-m-m. All work and no play— She handed me the last bottle.

Demurely she hid a tiny hiccup. "I'm going to save all the corks— No I won't either. My father would want to know what I'm thinking of, drinking with my bosses."

I said it wasn't a good idea to annoy your father. Mike said why fool with bad ideas, when he had a good one. We were interested. Nothing like a good idea to liven things up.

Mike was expansive as the very devil. "Going to Los Angeles."

We nodded solemnly.

"Going to Los Angeles to work."

Another nod.

"Going to work in Los Angeles. What will we do for pretty blond girl to write letters?"

Awful. No pretty blonde to write letters and drink champagne. Sad case.

"Gotta hire somebody to write letters anyway. Might not be blonde. No blondes in Hollywood. No good ones, anyway. So—"

I saw the wonderful idea, and finished for him. "So we take pretty blonde to Los Angeles to write letters!"

What an idea that was! One bottle sooner and its brilliancy would have been dimmed. Ruth bubbled like a fresh bottle and Mike and I sat there, smirking like mad.

"But I can't! I couldn't leave day after tomorrow just like that—!"

Mike was magnificent. "Who said day after tomorrow? Changed our minds. Leave right now."

She was appalled. "Right now! Just like that?"

"Right now. Just like that." I was firm.

"But—"

"No buts. Right now. Just like that."

"Nothing to wear—"

"Buy clothes any place. Best ones in Los Angeles.

"But my hair—"

Mike suggested a haircut in Hollywood, maybe?

I pounded the table. It felt solid. "Call the airport. Three tickets."

She called the airport. She intimidated easy.

The airport said we could leave for Chicago any time on the hour, and change there for Los Angeles. Mike wanted to know why she was wasting time on the telephone when we could be on our way. Holding up the wheels of progress, emery dust in the gears. One minute to get her hat.

"Call Pappy from the airport."

Her objections were easily brushed away with a few word-pictures of how much fun there was to be had in Hollywood. We left a sign on the door, "Gone to Lunch—Back in December," and made the airport in time for the four o'clock plane, with no time left to call Pappy. I told the parking attendant to hold the car until he heard from me and we made it up the steps and into the plane just in time. The steps were taken away, the motors snorted, and we were off, with Ruth holding fast her hat in an imaginary breeze.

There was a two-hour layover in Chicago. They don't serve liquor at the airport, but an obliging cab driver found us a convenient bar down the road, where Ruth made her call to her father. Cautiously we stayed away from the telephone booth, but from what Ruth told us, he must have read her the riot act. The bartender didn't have champagne, but gave us the special treatment reserved for those that order it. The cab driver saw that we made the liner two hours later.

In Los Angeles we registered at the Commodore, cold sober and ashamed of ourselves. The next day Ruth went shopping for clothes for herself, and for us. We gave her the sizes and enough money to soothe her hangover. Mike and I did some telephoning. After breakfast we sat around until the desk clerk announced a Mr. Lee Johnson to see us.

Lee Johnson was the brisk professional type, the high-bracket salesman. Tall, rather homely, a clipped way of talking. We introduced ourselves as embryo producers. His eyes brightened when we said that. His meat.

"Not exactly the way you think," I told him. "We have already eighty per cent or better of the final print."

He wanted to know where he came in.

"We have several thousand feet of Trucolor film. Don't bother asking where or when we got it. This footage is silent. We'll need sound and, in places, speech dubbed in."

He nodded. "Easy enough. What condition is the master?"

"Perfect condition. It's in the hotel vault right now. There are gaps in the story to fill. We'll need quite a few male and female characters. And all of these will have to do their doubling for cash, and not for screen credit."

Johnson raised his eyebrows. "And why? Out here screen credit is bread and butter."

"Several reasons. This footage was made—never mind where—with the understanding that film credit would favor no one."

"If you're lucky enough to catch your talent between pictures you might get away with it. But if your footage is worth working with, my boys will want screen credit. And I think they're entitled to it."

I said that was reasonable enough. The technical crews were essential, and I was prepared to pay well. Particularly to keep their mouths closed until the print was ready for final release. Maybe even after that.

"Before we go any further," Johnson rose and reached for his hat, "let's take a look at that print. I don't know if we can—"

I knew what he was thinking. Amateurs. Home movies. Feelthy peekchures, mebbe?

We got the reels out of the hotel safe and drove to his laboratory, out Sunset. The top was down on his convertible and Mike hoped audibly that Ruth would have sense enough to get sport shirts that didn't itch.

"Wife?" Johnson asked carelessly.

"Secretary," Mike answered just as casually. "We flew in last night and she's out getting us some light clothes." Johnson's estimation of us rose visibly.

A porter came out of the laboratory to carry the suitcase containing the film reels. It was a long, low building, with the offices at the front and the actual laboratories tapering off at the rear. Johnson took us in the side door and called for someone whose name we didn't catch. The anonymous one was a projectionist who took the reels and disappeared into the back of the projection room. We sat for a minute in the soft easy-chairs until the projectionist buzzed ready. Johnson glanced at us and we nodded. He clicked a switch on the arm of his chair and the overhead lights went out. The picture started.

It ran a hundred and ten minutes as it stood. We both watched Johnson like a cat at a rathole. When the tag end showed white on the screen he signaled with the chair-side buzzer for lights. They came on. He faced us.

"Where did you get that print?"

Mike grinned at him. "Can we do business?"

"Do business?" He was vehement. "You bet your life we can do business. We'll do the greatest business you ever saw!"

The projection man came down. "Hey, that's all right. Where'd you get it?"

Mike looked at me. I said, "This isn't to go any further."

Johnson looked at his man, who shrugged. "None of my business."

I dangled the hook. "That wasn't made here. Never mind where."

Johnson rose and struck, hook, line

and sinker. "Europe! Hm-m-m. Germany. No, France. Russia, maybe. Einstein, or Eisenstein, or whatever his name is?"

I shook my head. "That doesn't matter. The leads are all dead, or out of commission, but their heirs . . . well, you get what I mean."

Johnson saw what I meant. "Absolutely right. No point taking any chances. Where's the rest—?"

"Who knows? We were lucky to salvage that much. Can do?"

"Can do." He thought for a minute. "Get Bernstein in here. Better get Kessler and Marrs, too." The projectionist left. In a few minutes Kessler, a heavy-set man, and Marrs, a young, nervous chain-smoker, came in with Bernstein, the sound man. We were introduced all around and Johnson asked if we minded sitting through another showing.

"Nope. We like it better than you do."

Not quite. Kessler and Marrs and Bernstein, the minute the film was over, bombarded us with startled questions. We gave them the same answers we'd given Johnson. But we were pleased with the reception, and said so.

Kessler grunted. "I'd like to know who was behind that camera. Best I've seen, by Cripes, since 'Ben Hur.' Better than 'Ben Hur.' The boy's good."

I grunted right back at him. "That's the only thing I can tell you. The photography was done by the boys you're talking to right now. Thanks for the kind word."

All four of them stared.

Mike said, "That's right."

"Hey, hey!" from Marrs. They all looked at us with new respect. It felt good.

Johnson broke into the silence when it became awkward. "What's next on the score card?"

We got down to cases. Mike, as usual, was content to sit there with his eyes half closed, taking it all in, letting me do all the talking.

"We want sound dubbed in all the way through."

"Pleasure," said Bernstein.

"At least a dozen, maybe more, of speaking actors with a close resemblance to the leads you've seen."

Johnson was confident. "Easy. Central Casting has everybody's picture since the Year One."

"I know. We've already checked that. No trouble there. They'll have to take the cash and let the credit go, for reasons I've already explained to Mr. Johnson."

A moan from Marrs. "I bet I get that job."

Johnson was snappish. "You do. What else?" to me.

I didn't know. "Except that we have no plans for distribution as yet. That will have to be worked out."

"Like falling off a log." Johnson was happy about that. "One look at the rushes and United Artists would spit in Shakespeare's eye."

Marrs came in. "What about the other shots? Got a writer lined up?"

"We've got what will pass for the shooting script, or would have in a week or so. Want to go over it with us?"

He'd like that.

"How much time have we got?" interposed Kessler. "This is going

to be a job. When do we want it?" Already it was "we."

"Yesterday is when we want it," snapped Johnson, and he rose. "Any ideas about music? No? We'll try for Werner Janssen and his boys. Bernstein, you're responsible for that print from now on. Kessler, get your crew in and have a look at it. Marrs, you'll go with Mr. Lefko and Mr. Laviada through the files at Central Casting at their convenience. Keep in touch with them at the Commodore. Now, if you'll step into my office, we'll discuss the financial arrangements—"

As easy as all that.

Oh, I don't say that it was easy work or anything like that, because in the next few months we were playing Busy Bee. What with running down the only one registered at Central Casting who looked like Alexander himself, he turned out to be a young Armenian who had given up hope of ever being called from the extra lists and had gone home to Santee—casting and rehearsing the rest of the actors and swearing at the costumers and the boys who built the sets, we were kept hopping. Even Ruth, who had reconciled her father with soothing letters, for once earned her salary. We took turns shooting dictation at her until we had a script that satisfied Mike and myself and young Marrs, who turned out to be clever as a fox on dialogue.

What I really meant is that it was easy, and immensely gratifying, to crack the shell of the tough boys who had seen epics and turkeys come and go. They were really impressed by what we had done. Kessler was disappointed when we refused to be bothered with photographing the rest of the film. We just batted our eyes and said that we were too busy, that we were perfectly confident that he would do as well as we could. He outdid himself, and us. I don't know what we would have done if he had asked us for any concrete advice. I suppose, when I think it all over, that the boys we met and worked with were so tired of working with the usual mine-run Grade B's, that they were glad to meet someone that knew the difference between glycerin tears and reality and didn't care if it cost two dollars extra. They had us placed as a couple of city slickers with plenty on the ball. I hope.

Finally it was all over with. We all sat in the projection room; Mike and I, Marrs and Johnson, Kessler and Bernstein, and all the lesser technicians that had split up the really enormous amount of work that had been done watched the finished product. It was terrific. Everyone had done his work well. When Alexander came on the screen, he *was* Alexander the Great. (The Armenian kid got a good bonus for that.) All that blazing color, all that wealth and magnificence and glamor seemed to flare right out of the screen and sear across your mind. Even Mike and I, who had seen the original, were on the edge of our seats.

The sheer realism and magnitude of the battle scenes, I think, really made the picture. Gore, of course, is glorious when it's all make-believe and the dead get up to go to lunch.

But when Bill Mauldin sees a picture and sells a breathless article on the similarity of infantrymen of all ages — well, Mauldin knows what war is like. So did the infantrymen throughout the world who wrote letters comparing Alexander's Arbela to Anzio and the Argonne. The weary peasant, not stolid at all, trudging and trudging into mile after mile of those dust-laden plains and ending as a stinking, naked, ripped corpse peeping under a mound of flies isn't any different when he carries a sarissa instead of a rifle. That we'd tried to make obvious, and we succeeded.

When the lights came up in the projection room we knew we had a winner. Individually we shook hands all around, proud as a bunch of penguins, and with chests out as far. The rest of the men filed out and we retired to Johnson's office. He poured a drink all around and got down to business.

"How about releases?"

I asked him what he thought.

"Write your own ticket," he shrugged. I don't know whether or not you know it, but the word has already gone around that you've got something."

I told him we'd had calls at the hotel from various sources, and named them.

"See what I mean? I know those babies. Kiss them out if you want to keep your shirt. And while I'm at it, you owe us quite a bit. I suppose you've got it."

"We've got it."

"I was afraid you would. If you didn't, I'd be the one that would have your shirt." He grinned, but we all knew he meant it. "All right, that's settled. Let's talk about release.

"There are two or three outfits around town that will want a crack at it. My boys will have the word spread around in no time; there's no point in trying to keep them quiet any longer. I know — they'll have sense enough not to talk about the things you want off the record. I'll see to that. But you're top dog right now. You got loose cash, you've got the biggest potential gross I've ever seen, and you don't have to take the first offer. That's important, in this game."

"How would you like to handle it yourself?"

"I'd like to try. The outfit I'm thinking of needs a feature right now, and they don't know I know it. They'll pay and pay. What's in it for me?"

"That," I said, "we can talk about later. And I think I know just what you're thinking. We'll take the usual terms and we don't care if you hold up whoever you deal with. What we don't know won't hurt us." That's what he was thinking, all right. That's a cutthroat game out there.

"Good. Kessler, get your setup ready for duplication."

"Always ready."

"Marrs, start the ball rolling on publicity . . . what do you want to do about that?" to us.

Mike and I had talked about that before. "As far as we're concerned," I said slowly, "do as you think best. Personal publicity, O.K. We won't

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look for it, but we won't dodge it. As far as that goes, we're the local yokels making good. Soft pedal any questions about where the picture was made, without being too obvious. You're going to have trouble when you talk about the nonexistent actors, but you ought to be able to figure out something."

Marrs groaned and Johnson grinned. "He'll figure out something."

"As far as technical credit goes, we'll be glad to see you get all you can, because you've done a swell job." Kessler took that as a personal compliment, and it was. "You might as well know now, before we go any further, that some of the work came right from Detroit." They all sat up at that.

"Mike and I have a new process of model and trick work." Kessler opened his mouth to say something but thought better of it. "We're not going to say what was done, or how much was done in the laboratory, but you'll admit that it defies detection."

About that they were fervent. "I'll say it defies detection. In the game this long and process work gets by me . . . where—"

"I'm not going to tell you that. What we've got isn't patented and won't be, as long as we can hold it up." There wasn't any griping there. These men knew process work when they saw it. If they didn't see it, it was good. They could understand why we'd want to keep a process that good a secret.

"We can practically guarantee there'll be more work for you to do later on." Their interest was plain. "We're not going to predict when, or make any definite arrangement, but we still have a trick or two in the deck. We like the way we've been getting along, and we want to stay that way. Now, if you'll excuse us, we have a date with a blonde."

Johnson was right about the bidding for the release. We—or rather Johnson — made a very profitable deal with United Amusement and the affiliated theaters. Johnson, the bandit, got his percentage from us and likely did better with United. Kessler and Johnson's boys took huge ads in the trade journals to boast about their connections with the Academy Award Winner. Not only the Academy, but every award that ever went to any picture. Even the Europeans went overboard. They're the ones that make a fetish of realism. They knew the real thing when they saw it, and so did everyone else.

Our success went to Ruth's head. In no time she wanted a secretary. At that, she needed one to fend off the screwballs that popped out of the woodwork. So we let her hire a girl to help out. She picked a good typist, about fifty. Ruth is a smart girl, in a lot of ways. Her father showed signs of wanting to see the Pacific, so we raised her salary on condition he'd stay away. The three of us were having too much fun.

The picture opened at the same time in both New York and Hollywood. We went to the premiere in great style with Ruth between us, swollen like a trio of bullfrogs. It's a great feeling to sit on the floor,

early in the morning, and read reviews that make you feel like floating. It's a better feeling to have a mintful of money. Johnson and his men were right along with us. I don't think he could have been too flush in the beginning, and we all got a kick out of riding the crest.

It was a good-sized wave, too. We had all the personal publicity we wanted, and more. Somehow the word was out that we had a new gadget for process photography, and every big studio in town was after what they thought would be a mighty economical thing to have around. The studios that didn't have a spectacle scheduled looked at the receipts of "Alexander" and promptly scheduled a spectacle. We drew some very good offers, Johnson said, but we made a series of long faces and broke the news that we were leaving for Detroit the next day, and to hold the fort awhile. I don't think he thought we actually meant it, but we did. We left the next day.

Back in Detroit we went right to work, helped by the knowledge that we were on the right track. Ruth was kept busy turning away the countless would-be visitors. We admitted no reporters, no salesmen, no one. We had no time. We were using the view camera. Plate after plate we sent to Rochester for developing. A print of each was returned to us and the plate was held in Rochester for our disposal. We sent to New York for a representative of one of the biggest publishers in the country. We made a deal.

Your main library has a set of the books we published, if you're interested. Huge heavy volumes, hundreds of them, each page a razor-sharp blowup from an 8x10 negative. A set of those books went to every major library and university in the world. Mike and I got a real kick out of solving some of the problems that have had savants guessing for years. In the Roman volume, for example, we solved the trireme problem with a series of pictures, not only the interior of a trireme, but a line-of-battle quinquereme. (Naturally, the professors and amateur yachtsmen weren't convinced at all.) We had a series of aerial shots of the City of Rome taken a hundred years apart, over a millennium. Aerial views of Ravenna and Londinium, Palmyra and Pompeii, of Eboracum and Byzantium. Oh, we had the time of our lives! We had a volume for Greece and for Rome, for Persia and for Crete, for Egypt and for the Eastern Empire. We had pictures of the Parthenon and the Pharos, pictures of Hannibal and Caractacus and Vercingetorix, pictures of the Walls of Babylon and the building of the pyramids and the palace of Sargon, pages from the Lost Books of Livy and the plays of Euripedes. Things like that.

Terrifically expensive, a second printing sold at cost to a surprising number of private individuals. If the cost had been less, historical interest would have become even more the fad of the moment.

When the flurry had almost died down, some Italian digging in the hitherto-unexcavated section of ash-buried Pompeii, dug right into a tiny buried temple right where our aerial

shot had showed it to be. His budget was expanded and he found more ash-covered ruins that agreed with our aerial layout, ruins that hadn't seen the light of day for almost two thousand years. Everyone promptly wailed that we were the luckiest guessers in captivity; the head of some California cult suspected aloud that we were the reincarnations of two gladiators named Joe.

To get some peace and quiet Mike and I moved into our studio, lock, stock, and underwear. The old bank vault had never been removed, at our request, and it served well to store our equipment when we weren't around. All the mail Ruth couldn't handle we disposed of, unread; the old bank building began to look like a well-patronized soup kitchen. We hired burly private detectives to handle the more obnoxious visitors and subscribed to a telegraphic protective service. We had another job to do, another full-length feature.

We still stuck to the old historical theme. This time we tried to do what Gibbon did in the Decline and Fall of the Roman Empire. And, I think, we were rather successful, at that. In four hours you can't completely cover two thousand years, but you can, as we did, show the cracking up of a great civilization, and how painful the process can be. The criticism we drew for almost ignoring Christ and Christianity was unjust, we think, and unfair. Very few knew then, or know now, that we had included, as a kind of trial balloon, some footage of Christ Himself, and His times. This footage we had to cut. The Board of Review, as you know, is both Catholic and Protestant. They—the Board—went right up in arms. We didn't protest very hard when they claimed our "treatment" was irreverent, indecent, and biased and inaccurate "by any Christian standard. Why," they wailed, "it doesn't even look like Him," and they were right; it didn't. Not any picture *they* ever saw. Right then and there we decided that it didn't pay to tamper with anyone's religious beliefs. That's why you've never seen anything emanating from us that conflicted even remotely with the accepted historical, sociological, or religious features of Someone Who Knew Better. That Roman picture, by the way,—but not accidentally—deviated so little from the textbooks you conned in school that only a few enthusiastic specialists called our attention to what they insisted were errors. We were still in no position to do any mass rewriting of history, because we were unable to reveal just where we got our information.

Johnson, when he saw the Roman epic, mentally clicked high his heels. His men went right to work, and we handled the job as we had the first. One day Kessler got me in a corner, dead earnest.

"Ed," he said, "I'm going to find out where you got that footage if it's the last thing I ever do."

I told him that some day he would.

"And I don't mean some day, either; I mean right now. That bushwa about Europe might go once, but not twice. I know better, and so

does everyone else. Now, what about it?"

I told him I'd have to consult Mike and I did. We were up against it. We called a conference.

"Kessler tells me he has troubles. I guess you all know what they are." They all knew.

Johnson spoke up. "He's right, too. We know better. Where did you get it?"

I turned to Mike. "Want to do the talking?"

A shake of his head. "You're doing all right."

"All right." Kessler hunched a little forward and Marrs lit another cigarette. "We weren't lying and we weren't exaggerating when we said the actual photography was ours. Every frame of film was taken right here in this country, within the last few months. Just how — I won't mention why or where—we can't tell you just now." Kessler snorted in disgust. "Let me finish.

"We all know that we're cashing in, hand over fist. And we're going to cash in some more. We have, on our personal schedule, five more pictures. Three of that five we want you to handle as you did the others. The last two of the five will show you both the reason for all the childish secrecy, as Kessler calls it, and another motive that we have so far kept hidden. The last two pictures will show you both our motives and our methods; one is as important as the other. Now — is that enough? Can we go ahead on that basis?"

It wasn't enough for Kessler. "That doesn't mean a thing to me. What are we, a bunch of hacks?"

Johnson was thinking about his bank balance. "Five more. Two years, maybe four."

Marrs was skeptical. "Who do you think you're going to kid that long? Where's your studio? Where's your talent? Where do you shoot your exteriors? Where do you get your costumes and your extras? In one single shot you've got forty thousand extras, if you've got one! Maybe you can shut *me* up, but who's going to answer the questions that Metro and Fox and Paramount and RKO have been asking? Those boys aren't fools, they know their business. How do you expect me to handle any publicity when I don't know what the score is, myself?"

Johnson told him to pipe down for awhile and let him think. Mike and I didn't like this one bit. But what could we do—tell the truth and end up in a strait-jacket?

"Can we do it this way?" he finally asked. "Marrs: these boys have an in with the Soviet Government. They work in some place in Siberia, maybe. Nobody gets within miles of there. No one ever knows what the Russians are doing—"

"Nope!" Marrs was definite. "Any hint that these came from Russia and we'd all be a bunch of Reds. Cut the gross in half."

Johnson began to pick up speed. "All right, not from Russia. From one of these little republics fringed around Siberia or Armenia or one of those places. They're not Russian-made films at all. In fact, they've been made by some of these Germans and Austrians the Russians took over and moved after the War. The

war fever had died down enough for people to realize that the Germans knew their stuff occasionally. The old sympathy racket for these refugees struggling with faulty equipment, lousy climate, making super-spectacles and smuggling them out under the nose of the Gestapo or whatever they call it—That's it!"

Doubtfully, from Marrs: "And the Russians tell the world we're nuts, that they haven't got any loose Germans?"

That, Johnson overrode. "Who reads the back pages? Who pays any attention to what the Russians say? Who cares? They might even think we're telling the truth and start looking around their own backyard for something that isn't there! All right with you?" to Mike and myself.

I looked at Mike and he looked at me.

"O.K. with us."

"O.K. with the rest of you? Kessler? Bernstein?"

They weren't too agreeable, and certainly not happy, but they agreed to play games until we gave the word.

We were warm in our thanks. "You won't regret it."

Kessler doubted that very much, but Johnson eased them all out, back to work. Another hurdle leaped, or sidestepped.

"Rome" was released on schedule and drew the same friendly reviews. "Friendly" is the wrong word for reviews that stretched ticket line-ups blocks long. Marrs did a good job on the publicity. Even that chain of newspapers that afterward turned on us so viciously fell for Marrs' word wizardry and ran full-page editorials urging the reader to see "Rome."

With our third picture, "Flame Over France," we corrected a few misconceptions about the French Revolution, and began stepping on a few tender toes. Luckily, however, and not altogether by design, there happened to be in power in Paris a liberal government. They backed us to the hilt with the confirmation we needed. At our request they released a lot of documents that had hitherto conveniently been lost in the cavernous recesses of the Bibliotheque Nationale. I've forgotten the name of whoever happened to be the perennial pretender to the French throne. At, I'm sure, the subtle prodding of one of Marrs' ubiquitous publicity men, the pretender sued us for our whole net, alleging the defamation of the good name of the Bourbons. A lawyer Johnson dug up for us sucked the poor chump into a courtroom and cut him to bits. Not even six cents damages did he get. Samuels, the lawyer, and Marrs drew a good-sized bonus, and the pretender moved to Honduras.

Somewhere around this point, I believe, did the tone of the press begin to change. Up until then we'd been regarded as crosses between Shakespeare and Barnum. Since long obscure facts had been dredged into the light, a few well-known pessimists began to wonder *sotto voce* if we weren't just a pair of blasted pests. "Should leave well enough alone." Only our huge advertising budget kept them from saying more.

I'm going to stop right here and say something about our personal life while all this was going on. Mike I've kept in the background pretty well, mostly because he wants it that way. He lets me do all the talking and stick my neck out while he sits in the most comfortable chair in sight. I yell and I argue and he just sits there; hardly ever a word coming out of that dark-brown pan, certainly never an indication showing that behind those polite eyebrows there's a brain — and a sense of humor and wit—faster and as deadly as a bear trap. Oh, I know we've played around, sometimes with a loud bang, but we've been, ordinarily, too busy and too preoccupied with what we were doing to waste any time. Ruth, while she was with us, was a good dancing and drinking partner. She was young, she was almost what you'd call beautiful, and she seemed to like being with us. For awhile I had a few ideas about her that might have developed into something serious. We both — I should say, all three of us — found out in time that we looked at a lot of things too differently. So we weren't too disappointed when she signed with Metro. Her contract meant what she thought was all the fame and money and happiness in the world, plus the personal attention she was doubtless entitled to have. They put her in Class B's and serials and she, financially, is better off than she ever expected to be. Emotionally, I don't know. We heard from her sometime ago, and I think she's about due for another divorce. Maybe it's just as well.

But let's get away from Ruth. I'm ahead of myself, anyway. All this time Mike and I had been working together, our approach to the final payoff had been divergent. Mike was hopped on the idea of making a better world, and doing that by making war impossible. "War," he's often said, "war of any kind is what has made man spend most of his history in merely staying alive. Now, with the atom to use, he has within himself the seed of self-extermination. So help me, Ed, I'm going to do my share of stopping that, or I don't see any point in living. I mean it!"

He did mean it. He told me that in almost the same words the first day we met. Then, I tagged that idea as a pipe dream picked up on an empty stomach. I saw his machine only as a path to a luxurious and personal Nirvana, and I thought he'd soon be going my way. I was wrong.

You can't live, or work, with a likable person without admiring some of the qualities that make that person likable. Another thing; it's a lot easier to worry about the woes of the world when you haven't any yourself. It's a lot easier to have a conscience when you can afford it. When I donned the rose-colored glasses half my battle was won; when I realized how grand a world this *could* be, the battle was over. That was about the time of "Flame Over France," I think. The actual time isn't important. What *is* important is that, from that time on, we became the tightest team possible. Since then the only thing we've differed on would be the time to knock

off for a sandwich. Most of our leisure time, what we had of it, has been spent in locking up for the night, rolling out the portable bar, opening just enough beer to feel good, and relaxing. Maybe, after one or two, we might diddle the dials of the machine, and go rambling.

Together we've been everywhere and seen anything. It might be a good night to check up on Francois Villon, that faker, or maybe we might chase around with Haroun-el-Rashid. (If there was ever a man born a few hundred years too soon, it was that careless caliph.) Or if we were in a bad or discouraged mood we might follow the Thirty Years War for a while, or if we were real raffish we might inspect the dressing rooms at Radio City. For Mike the crackup of Atlantis has always had an odd fascination, probably because he's afraid that man will do it again, now that he's rediscovered nuclear energy. And if I doze off he's quite apt to go back to the very Beginning, back to the start of the world as we know it now. (It wouldn't do any good to tell you what went before that.)

When I stop to think, it's probably just as well that neither of us married. We, of course, have hopes for the future, but at present we're both tired of the whole human race; tired of greedy faces and hands. With a world that puts a premium on wealth and power and strength, it's no wonder what decency there is stems from fear of what's here now, or fear of what's hereafter. We've seen so much of the hidden actions of the world — call it snooping, if you like—that we've learned to disregard the surface indications of kindness and good. Only once did Mike and I ever look into the private life of someone we knew and liked and respected. Once was enough. From that day on we made it a point to take people as they seemed. Let's get away from that.

The next two pictures we released in rapid succession; the first "Freedom for Americans," the American Revolution, and "The Brothers and the Guns," the American Civil War. Bang! Every third politician, a lot of so-called "educators," and all the professional patriots started after our scalps. Every single chapter of the DAR, the Sons of Union Veterans, and the Daughters of the Confederacy pounded their collective heads against the wall. The South went frantic; every state in the Deep South and one state on the border flatly banned both pictures, the second because it was truthful, and the first because censorship is a contagious disease. They stayed banned until the professional politicians got wise. The bans were revoked, and the choke-collar and string-tie brigade pointed to both pictures as horrible examples of what some people actually believed and thought, and felt pleased that someone had given them an opportunity to roll out the barrel and beat the drums that sound sectional and racial hatred.

New England was tempted to stand on its dignity, but couldn't stand the strain. North of New York both pictures were banned. In New

York state the rural representatives voted en bloc, and the ban was clamped on statewide. Special trains ran to Delaware, where the corporations were too busy to pass another law. Libel suits flew like spaghetti, and although the extras blared the filing of each new suit, very few knew that we lost not one. Although we had to appeal almost every suit to higher courts, and in some cases request a change of venue which was seldom granted, the documentary proof furnished by the record cleared us once we got to a judge, or series of judges, with no fences to mend.

It was a mighty rasp we drew over wounded ancestral pride. We had shown that not all the mighty had haloes of purest gold, that not all the Redcoats were strutting bullies —nor angels, and the British Empire, except South Africa, refused entry to both pictures and made violent passes at the State Department. The spectacle of Southern and New England congressmen approving the efforts of a foreign ambassador to suppress free speech drew hilarious hosannahs from certain quarters. H. L. Mencken gloated in the clover, doing loud nip-ups, and the newspapers hung on the triple-horned dilemma of anti-foreign, pro-patriotic, and quasi-logical criticism. In Detroit the Ku Klux Klan fired an anemic cross on our doorstep, and the Friendly Sons of St. Patrick, the NAACP, and the WCTU passed flattering resolutions. We forwarded the most vicious and obscene letters —together with a few names and addresses that hadn't been originally

signed—to our lawyers and the Post Office Department. There were no convictions south of Illinois.

Johnson and his boys made hay. Johnson had pyramided his bets into an international distributing organization, and pushed Marrs into hiring every top press agent either side of the Rockies. What a job they did! In no time at all there were two definite schools of thought that overflowed into the public letter boxes. One school held that we had no business raking up old mud to throw, that such things were better left forgotten and forgiven, that nothing wrong had ever happened, and if it had, we were liars anyway. The other school reasoned more to our liking. Softly and slowly at first, then with a triumphant shout, this fact began to emerge; such things had actually happened, and could happen again, were possibly happening even now; had happened because twisted truth had too long left its imprint on international sectional, and racial feelings. It pleased us when many began to agree, with us, that it is important to forget the past, but that it is even more important to understand and evaluate it with a generous and unjaundiced eye. That was what we were trying to bring out.

The banning that occurred in the various states hurt the gross receipts only a little, and we were vindicated in Johnson's mind. He had dolefully predicted loss of half the national gross because "you can't tell the truth in a movie and get away with it. Not if the house holds over three hundred." Not even on the stage? "Who goes to anything but a movie?"

So far things had gone just about as we'd planned. We'd earned and received more publicity, favorable and otherwise, than anyone living. Most of it stemmed from the fact that our doing had been newsworthy. Some, naturally, had been the ninety-day-wonder material that fills a thirsty newspaper. We had been very careful to make our enemies in the strata that can afford to fight back. Remember the old saw about knowing a man by the enemies he makes? Well, publicity was our ax. Here's how we put an edge on it.

I called Johnson in Hollywood. He was glad to hear from us. "Long time no see. What's the pitch, Ed?"

"I want some lip readers. And I want them yesterday, like you tell your boys."

"Lip readers? Are you nuts? What do you want with lip readers?"

"Never mind why. I want lip readers. Can you get them?"

"How should I know? What do you want them for?"

"I said, can you get them?"

He was doubtful. "I think you've been working too hard."

"Look—"

"Now, I didn't say I couldn't. Cool off. When do you want them? And how many?"

"Better write this down. Ready? I want lip readers for these languages: English, French, German, Russian, Chinese, Japanese, Greek, Belgian, Dutch and Spanish."

"ED LEFKO, HAVE YOU GONE CRAZY?"

. I guess it didn't sound very sensible, at that. "Maybe I have. But those languages are essential. If you run across any who can work in any other language, hang on to them. I might need them, too." I could see him sitting in front of his telephone, wagging his head like mad. Crazy. The heat must have got Lefko, good old Ed. "Did you hear what I said?"

"Yes, I heard you. If this is a rib—"

"No rib. Dead serious."

He began to get mad. "Where you think I'm going to get lip readers, out of my hat?"

"That's your worry. I'd suggest you start with the local School for the Deaf." He was silent. "Now, get this into your head; this isn't a rib, this is the real thing. I don't care what you do, or where you go, or what you spend — I want those lip readers in Hollywood when we get there or I want to know they're on the way."

"When are you going to get here?"

I said I wasn't sure. "Probably a day or two. We've got a few loose ends to clean up."

He swore a blue streak at the inequities of fate. "You'd better have a good story when you do—" I hung up.

Mike met me at the studio. "Talk to Johnson?" I told him, and he laughed. "Does sound crazy, I suppose. But he'll get them, if they exist and like money. He's the Original Resourceful Man."

I tossed my hat in a corner. "I'm glad this is about over. Your end caught up?"

"Set and ready to go. The films and the notes are on the way, the real estate company is ready to take over the lease, and the girls are paid up to date, with a little extra."

I opened a bottle of beer for myself. Mike had one. "How about the office files? How about the bar, here?"

"The files go to the bank to be stored. The bar? Hadn't thought about it."

The beer was cold. "Have it crated and send it to Johnson."

We grinned, together. "Johnson it is. He'll need it."

I nodded at the machine. 'What about that?"

"That goes with us on the plane as air express." He looked closely at me. "What's the matter with you —jitters?"

"Nope. Willies. Same thing."

"Me, too. Your clothes and mine left this morning."

"Not even a clean shirt left?"

"Not even a clean shirt. Just like—"

I finished it. "—the first trip with Ruth. A little different, maybe."

Mike said slowly, "A lot different." I opened another beer. "Anything you want around here, anything else to be done?" I said no. "O.K. Let's get this over with. We'll put what we need in the car. We'll stop at the Courville Bar before we hit the airport."

I didn't get it. "There's still beer left—"

"But no champagne."

I got it. "O.K. I'm dumb, at times. Let's go."

We loaded the machine into the car, and the bar, left the studio keys at the corner grocery for the real estate company, and headed for the airport by way of the Courville Bar. Ruth was in California, but Joe had champagne. We got to the airport late.

Marrs met us in Los Angeles. "What's up? You've got Johnson running around in circles."

"Did he tell you why?"

"Sounds crazy to me. Couple of reporters inside. Got anything for them?"

"Not right now. Let's get going."

In Johnson's private office we got a chilly reception. "This better be good. Where do you expect to find someone to lipread in Chinese? Or Russian, for that matter?"

We all sat down. "What have you got so far?"

"Besides a headache?" He handed me a short list.

I scanned it. "How long before you can get them here?"

An explosion. "How long before I can get them here? Am I your errand boy?"

"For all practical purposes you are. Quit the fooling. How about it?" Marrs snickered at the look on Johnson's face.

"What are you smirking at, you moron?" Marrs gave in and laughed outright, and I did, too. "Go ahead and laugh. This isn't funny. When I called the State School for the Deaf they hung up. Thought I was some practical joker. We'll skip that.

"There's three women and a man on that list. They cover English, French, Spanish, and German. Two of them are working in the East, and I'm waiting for answers to telegrams I sent them. One lives in Pomona and one works for the Arizona School for the Deaf. That's the best I could do."

We thought that over. "Get on the phone. Talk to every state in the union if you have to, or overseas."

Johnson kicked the desk. "And what are you going to do with them, if I'm that lucky?"

"You'll find out. Get them on planes and fly them here, and we'll talk turkey when they get here. I want a projection room, not yours, and a good bonded court reporter."

He asked the world to appreciate what a life he led.

"Get in touch with us at the Commodore." To Marrs: "Keep the reporters away for a while. We'll have something for them later." Then we left.

Johnson never did find anyone who could lipread Greek. None, at least, that could speak English. The expert on Russian he dug out of Ambridge, in Pennsylvania, the Flemish and Holland Dutch expert came from Leyden, in the Netherlands, and at the last minute he stumbled upon a Korean who worked in Seattle as an inspector for the Chinese Government. Five women and two men. We signed them to an ironclad contract drawn by Samuels, who now handled all our legal work. I made a little speech before they signed.

"These contracts, as far as we've been able to make sure, are going to control your personal and business

life for the next year, and there's a clause that says we can extend that period for another year if we so desire. Let's get this straight. You are to live in a place of your own, which we will provide. You will be supplied with all necessities by our buyers. Any attempt at unauthorized communication will result in abrogation of the contract. Is that clear?

"Good. Your work will not be difficult, but it will be tremendously important. You will, very likely, be finished in three months, but you will be ready to go any place at any time at our discretion, naturally at our expense. Mr. Sorenson, as you are taking this down, you realize that this goes for you, too." He nodded.

"Your references, your abilities, and your past work have been thoroughly checked, and you will continue under constant observation. You will be required to verify and notarize every page, perhaps every line, of your transcripts, which Mr. Sorenson here will supply. Any questions?"

No questions. Each was getting a fabulous salary, and each wanted to appear eager to earn it. They all signed.

Resourceful Johnson bought for us a small rooming house, and we paid an exorbitant price to a detective agency to do the cooking and cleaning and chauffeuring required. We requested that the lipreaders refrain from discussing their work among themselves, especially in front of the house employees, and they followed instructions very well.

One day, about a month later, we called a conference in the projection room of Johnson's laboratory. We had a single reel of film.

"What's that for?"

"That's the reason for all the cloak-and-dagger secrecy. Never mind calling your projection man. This I'm going to run through myself. See what you think of it."

They were all disgusted. "I'm getting tired of all this kid stuff," said Kessler.

As I started for the projection booth I heard Mike say, "You're no more tired of it than I am."

From the booth I could see what was showing on the downstairs screen, but nothing else. I ran through the reel, rewound, and went back down.

I said, "One more thing, before we go any further read this. It's a certified and notarized transcript of what has been read from the lips of the characters you just saw. They weren't, incidentally, 'characters,' in that sense of the word." I handed the crackling sheets around, a copy for each. "Those 'characters' are real people. You've just seen a newsreel. This transcript will tell you what they were talking about. Read it. In the trunk of the car Mike and I have something to show you. We'll be back by the time you've read it."

Mike helped me carry in the machine from the car. We came in the door in time to see Kessler throw the transcript as far as he could. He bounced to his feet as the sheets fluttered down.

He was furious. "What's going

on here?" We paid no attention to him, nor to the excited demands of the others until the machine had been plugged into the nearest outlet.

Mike looked at me. "Any ideas?"

I shook my head and told Johnson to shut up for a minute. Mike lifted the lid and hesitated momentarily before he touched the dials. I pushed Johnson into his chair and turned off the lights myself. The room went black. Johnson, looking over my shoulder, gasped. I heard Bernstein swear softly, amazed.

I turned to see what Mike had shown them.

It was impressive, all right. He had started just over the roof of the laboratory and continued straight up in the air. Up, up, up, until the city of Los Angeles was a tiny dot on a great ball. On the horizon were the Rockies. Johnson grabbed my arm. He hurt.

"What's that? What's that? Stop it!" He was yelling. Mike turned off the machine.

You can guess what happened next. No one believed their eyes, nor Mike's patient explanation. He had to twice turn on the machine again, once going far back into Kessler's past. Then the reaction set in.

Marrs smoked one cigarette after another, Bernstein turned a gold pencil over and over in his nervous fingers, Johnson paced like a caged tiger, and burly Kessler stared at the machine, saying nothing at all. Johnson was muttering as he paced. Then he stopped and shook his fist under Mike's nose.

"Man! Do you know what you've got there? Why waste time playing around here? Can't you see you've got the world by the tail on a downhill pull? If I'd ever known this—"

Mike appealed to me. "Ed, talk to this wildman."

I did. I can't remember exactly what I said, and it isn't important. But I did tell him how we'd started, how we'd plotted our course, and what we were going to do. I ended by telling him the idea behind the reel of film I'd run off a minute before.

He recoiled as though I were a snake. "You can't get away wtih that! You'd be hung—if you weren't lynched first!"

"Don't you think we know that? Don't you think we're willing to take that chance?"

He tore his thinning hair. Marrs broke in. "Let me talk to him." He came over and faced us squarely.

"Is this on the level? You going to make a picture like that and stick your neck out? You're going to turn that . . . that thing over to the people of the world?"

I nodded. "Just that."

"And toss over everything you've got?" He was dead serious, and so was I. He turned to the others. "He means it!"

Bernstein said, "Can't be done!"

Words flew. I tried to convince them that we had followed the only possible path. "What kind of a world do you want to live in? Or don't you want to live?"

Johnson grunted. "How long do you think we'd live if we ever made a picture like that? You're crazy!

I'm not. I'm not going to put my head in a noose."

"Why do you think we've been so insistent about credit and responsibility for direction and production? You'll be doing only what we hired you for. Not that we want to twist your arm, but you've made a fortune, all of you, working for us. Now, when the going gets heavy, you want to back out!"

Marrs gave in. "Maybe you're right, maybe you're wrong. Maybe you're crazy, maybe I am. I always used to say I'd try anything once. Bernie, you?"

Bernstein was quietly cynical. "You saw what happened in the last war. This might help. I don't know if it will. I don't know—but I'd hate to think I didn't try. Count me in!"

Kessler?

He swiveled his head. "Kid stuff! Who wants to live forever? Who wants to let a chance go by?"

Johnson threw up his hands. "Let's hope we get a cell together. Let's all go crazy." And that was that.

We went to work in a blazing drive of mutual hope and understanding. In four months the lipreaders were through. There's no point in detailing here their reactions to the dynamite they daily dictated to Sorenson. For their own good we kept them in the dark about our final purpose, and when they were through we sent them across the border into Mexico, to a small ranch Johnson had leased. We were going to need them later.

While the print duplicators worked overtime Marrs worked harder. The press and the radio shouted the announcement that, in every city of the world we could reach, there would be held the simultaneous premieres of our latest picture. It would be the last we needed to make. Many wondered aloud at our choice of the word "needed." We whetted curiosity by refusing any advance information about the plot, and Johnson so well infused their men with their own now-fervent enthusiasm that not much could be pried out of them but conjecture. The day we picked for release was Sunday. Monday, the storm broke.

I wonder how many prints of that picture are left today. I wonder how many escaped burning or confiscation. Two World Wars we covered, covered from the unflattering angles that, up until then, had been represented by only a few books hidden in the dark corners of libraries. We showed and *named* the war-makers, the cynical ones who signed and laughed and lied, the blatant patriots who used the flare of headlines and the ugliness of atrocity to hide behind their flag while life turned to death for millions. Our own and foreign traitors were there, the hidden ones with Janus faces. Our lipreaders had done their work well; no guesses these, no deduced conjectures from the broken records of a blasted past, but the exact words that exposed treachery disguised as patriotism.

In foreign lands the performances lasted barely the day. Usually, in

etaliation for the imposed censorship, the theaters were wrecked by the raging crowds. (Marrs, incidently, had spent hundreds of thousands bribing officials to allow the picture to be shown without previous censorship. Many censors, when that came out, were shot without trial). In the Balkans, revolutions broke out, and various embassies were stormed by mobs. Where the film was banned or destroyed written versions spontaneously appeared on the streets or in coffeehouses. Bootlegged editions were smuggled past customs guards, who looked the other way. One royal family fled to Switzerland.

Here in America it was a racing two weeks before the Federal Government, prodded into action by the raging of press and radio, in an unprecedented move closed all performances "to promote the common welfare, insure domestic tranquillity, and preserve forengn relations." Murmurs—and one riot—rumbled in the Midwest and spread until it was realized by the powers that be that something had to be done, and done quickly, if every government in the world were not to collapse of its own weight.

We were in Mexico, at the ranch Johnson had rented for the lipreaders. While Johnson paced the floor, jerkily fraying a cigar, we listened to a special broadcast of the attorney general himself:

". . . furthermore, this message was today forwarded to the government of the United States of Mexico. I read: 'the government of the United States of America requests the immediate arrest and extradition of the following:

"'Edward Joseph Lefkowicz, known as Lefko.'" First on the list. Even a fish wouldn't get into trouble if he kept his mouth shut.

"'Miguel Jose Zapata Laviada.'" Mike crossed one leg over the other.

"'Edward Lee Johnson.'" He threw his cigar on the floor and sank into a chair.

"'Robert Chester Marrs.'" He lit another cigarette. His face twitched.

"'Benjamin Lionel Bernstein.'" He smiled a twisted smile and closed his eyes.

"'Carl Wilhelm Kessler.'" A snarl.

"These men are wanted by the Government of the United States of America, to stand trial on charges ranging from criminal syndicalism, incitement to riot, suspicion of treason—"

I clicked off the radio. "Well?", to no one in particular.

Bernstein opened his eyes. "The rurales are probably on their way. Might as well go back and face the music—" We crossed the border at Juarez. The FBI was waiting.

Every press and radio chain in the world must have had coverage at that trial, every radio system, even the new and imperfect television chain. We were allowed to see no one but our lawyer. Samuels flew from the West Coast and spent a week trying to get past our guards. He told us not to talk to reporters, if we ever saw them.

"You haven't seen the newspapers? Just as well— How did you

ever get yourselves into this mess, anyway? You ought to know better."

I told him.

He was stunned. "Are you all crazy?"

He was hard to convince. Only the united effort and concerted stories of all of us made him believe that there was such a machine in existence. (He talked to us separately, because we were kept isolated.) When he got back to me he was unable to think coherently.

"What kind of defense do you call that?"

I shook my head. "No. That is, we know that we're guilty of practically everything under the sun if you look at it one way. If you look at it another—"

He rose. "Man, you don't need a lawyer, you need a doctor. I'll see you later. I've got to get this figured out in my mind before I can do a thing."

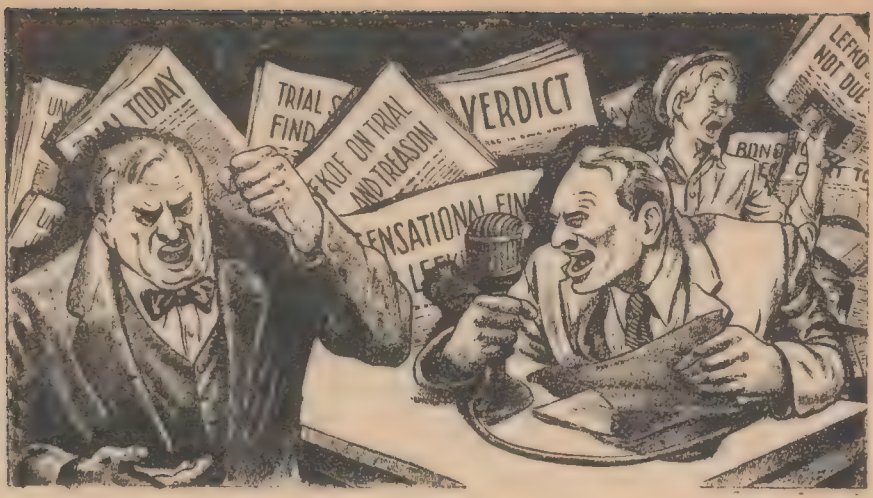
"Sit down. What do you think of this?" and I outlined what I had in mind.

"I think . . . I don't know what I think. I don't know. I'll talk to you later. Right now I want some fresh air," and he left.

As most trials do, this one began with the usual blackening of the defendant's character, or lack of it. (The men we'd blackmailed at the beginning had long since had their money returned, and they had sense enough to keep quiet. That might have been because they'd received a few hints that there might still be a negative or two lying around. Compounding a felony? Sure.). With the greatest of interest we sat in that great columned hall and listened to a sad tale.

We had, with malice aforethought, libeled beyond repair great and unselfish men who had made a career of devotion to the public weal, imperiled needlessly relations traditionally friendly by falsely reporting mythical events, mocked the courageous sacrifices of those who had *dulce et gloria mori,* and completely unset everyone's peace of mind. Every new accusation, every verbal lance drew solemn agreement from the dignitary-packed hall. Against someone's better judgment, the trial had been transferred from the regular courtroom to the Hall of Justice. Packed with influence, brass, and pompous legates from over the world, only the congressmen from the biggest states, or with the biggest votes were able to crowd the newly installed seats. So you can see it was a hostile audience that faced Samuels when the defense had its say. We had spent the previous night together in the guarded suite to which we had been transferred for the duration of the trial, perfecting, as far as we could, our planned defense. Samuels has the arrogant sense of humor that usually goes with supreme self-confidence, and I'm sure he enjoyed standing there among all those bemedaled and bejowled bigwigs, knowing the bombshell he was going to hurl. He made a good grenadier. Like this:

"We believe there is only one defense possible, we believe there is only one defense necessary. We have



gladly waived, without prejudice, our inalienable right of trial by jury. We shall speak plainly and bluntly, to the point.

"You have seen the picture in question. You have remarked, possiby, upon what has been called the startling resemblance of the actors in that picture to the characters named and portrayed. You have remarked, possibly, upon the apparent verisimilitude to reality. That I will mention again. The first witness will, I believe, establish the trend of our rebuttal of the allegations of the prosecution." He called the first witness.

"Your name, please?"

"Mercedes Maria Gomez."

"A little louder, please."

"Mercedes Maria Gomez."

"Your occupation?"

"Until last March I was a teacher at the Arizona School for the Deaf. Then I asked for and obtained a leave of absence. At present I am under personal contract to Mr. Lefko."

"If you see Mr. Lefko in this courtroom, Miss . . . Mrs.—"

"Miss."

"Thank you. If Mr. Lefko is in this court will you point him out? Thank you. Will you tell us the extent of your duties at the Arizona School?"

"I taught children born totally deaf to speak. And to read lips."

"You read lips yourself, Miss Gomez?"

"I have been totally deaf since I was fifteen."

"In English only?"

"English and Spanish. We have . . . had many children of Mexican descent."

Samuels asked for a designated Spanish-speaking interpreter. An officer in the back immediately volunteered. He was identified by his ambassador, who was present.

"Will you take this book to the

rear of the courtroom, sir?" To the Court: "If the prosecution wishes to examine that book, they will find that it is a Spanish edition of the Bible." The prosecution didn't wish to examine it.

"Will the officer open the Bible at random and read aloud?" He opened the Bible at the center and read. In dead silence the Court strained to hear. Nothing could be heard the length of that enormous hall.

Samuels: "Miss Gomez. Will you take these binoculars and repeat, to the Court, just what the officer is reading at the other end of the room?"

She took the binoculars and focused them expertly on the officer, who had stopped reading and was watching alertly. "I am ready."

Samuels: "Will you please read, sir?"

He did, and the Gomez woman repeated aloud, quickly and easily, a section that sounded as though it might be anything at all. I can't speak Spanish. The officer continued to read for a minute or two.

Samuels: "Thank you, sir. And thank you, Miss Gomez. Your pardon, sir, but since there are several who have been known to memorize the Bible, will you tell the Court if you have anything on your person that is written, anything that Miss Gomez has had no chance of viewing?" Yes, the officer had. "Will you read that as before? Will you, Miss Gomez—"

She read that, too. Then the officer came to the front to listen to the court reporter read Miss Gomez' words.

"That's what I read," he affirmed.

Samuels turned her over to the prosecution, who made more experiments that served only to convince that she was equally good as an interpreter and lipreader in either language.

In rapid succession Samuels put the rest of the lipreaders on the stand. In rapid succession they proved themselves as able and as capable as Miss Gomez, in their own linguistic specialty. The Russian from Ambridge generously offered to translate into his broken English any other Slavic language handy, and drew scattered grins from the press box. The Court was convinced, but failed to see the purpose of the exhibition. Samuels, glowing with satisfaction and confidence, faced the Court.

"Thanks to the indulgence of the Court, and despite the efforts of the distinguished prosecution, we have proved the almost amazing accuracy of lipreading in general, and these lipreaders in particular." One Justice absently nodded in agreement. "Therefore, our defense will be based on that premise, and on one other which we have had until now found necessary to keep hidden — the picture in question was and is definitely not a fictional representation of events of questionable authenticity. Every scene in that film contained, not polished professional actors, but the original person named and portrayed. Every foot, every inch of film was not the result of an elaborate studio reconstruction but an actual collection of pictures, an actual

collection of newsreels—if they can be called that—edited and assembled in story form!"

Through the startled spurt of astonishment we heard one of the prosecution: "That's ridiculous! No newsreel—"

Samuels ignored the objections and the tumult to put me on the stand. Beyond the usual preliminary questions I was allowed to say things my own way. At first hostile, the Court became interested enough to overrule the repeated objections that flew from the table devoted to the prosecution. I felt that at least two of the Court, if not outright favorable, were friendly. As far as I can remember, I went over the maneuvers of the past years, and ended something like this:

"As to why we arranged the cards to fall as they did; both Mr. Laviada and myself were unable to face the prospect of destroying his discovery, because of the inevitable penalizing of needed research. We were, and we are, unwilling to better ourselves or a limited group, by the use and maintenance of secrecy, if secrecy were possible. As to the only other alternative," and I directed this straight at Judge Bronson, the well-known liberal on the bench, "since the last war all atomic research and activity has been under the direction of a Board nominally civilian, but actually under the 'protection and direction' of the Army and Navy. This 'direction and protection,' as any competent physicist will gladly attest, has proved to be nothing but a smothering blanket serving to conceal hidebound antiquated reasoning, abysmal ignorance, and inestimable amounts of fumbling. As of right now, this country, or any country that was foolish enough to place any confidence in the rigid regime of the military mind is years behind what would otherwise be the natural course of discovery and progress in nuclear and related fields.

"We were, and we are, firmly convinced that even the slightest hint of the inherent possibilities and scope of Mr. Laviada's discovery would have meant, under the present regime, instant and mandatory confiscation of even a supposedly secure patent. Mr. Laviada has never applied for a patent, and never will. We both feel that such a discovery belongs not to an individual, a group, a corporation, or even to a nation, but to the world and those who live in it.

"We know, and are eager and willing to prove, that the domestic and external affairs of not only this nation, but of every nation are influenced, sometimes controlled, by esoteric groups warping political theories and human lives to suit their own ends." The court was smothered in sullen silence, thick and acid with hate and disbelief.

"Secret treaties, for example, and vicious, lying propaganda have too long controlled human passions and made men hate; honored thieves have too long rotted secretly in undeserved high places. The machine can make treachery and untruth impossible. It *must*, if atomic war is not to sear the face and fate of the world.

"Our pictures were all made with

that end in view. We needed, first, the wealth and prominence to present to an international audience what we knew to be the truth. We have done as much as we can. From now on, this Court takes over the burden we have carried. We are guilty of no treachery, guilty of no deceit, guilty of nothing but deep and true humanity. Mr. Laviada wishes me to tell the Court and the world that he has been unable till now to give his discovery to the world, free to use as it wills."

The Court stared at me. Every foreign representative was on the edge of his seat waiting for the Justices to order us shot without further ado, the sparkling uniforms were seething, and the pressmen were racing their pencils against time. The tension dried my throat. The speech that Samuels and I had rehearsed the previous night was strong medicine. Now what?

Samuels filled the breach smoothly. "If the Court pleases; Mr. Lefko has made some startling statements. Startling, but certainly sincere, and certainly either provable or disprovable. And proof it shall be!"

He strode to the door of the conference room that had been alloted us. As the hundreds of eyes followed him it was easy for me to slip down from the witness stand, and wait, ready. From the conference room Samuels rolled the machine, and Mike rose. The whispers that curdled the air seemed disappointed, unimpressed. Right in front of the Bench he trundled it.

He moved unobtrusively to one side as the television men trained their long-snouted cameras. "Mr. Laviada and Mr. Lefko will show you . . . I trust there will be no objection from the prosecution?" He was daring them.

One of the prosecution was already on his feet. He opened his mouth hesitantly, but thought better, and sat down. Heads went together in conference as he did. Samuels was watching the Court with one eye, and the courtroom with the other.

"If the Court pleases, we will need a cleared space. If the bailiff will . . . thank you, sir." The long tables were moved back, with a raw scraping. He stood there, with every eye in the courtroom glued on him. For two long breaths he stood there, then he spun and went to his table. "Mr. Lefko," and he bowed formally. He sat.

The eyes swung to me, to Mike, as he moved to his machine and stood there silently. I cleared my throat and spoke to the Bench as though I did not see the directional microphones trained at my lips.

"Justice Bronson."

He looked steadily at me and then glanced at Mike. "Yes, Mr. Lefko?"

"Your freedom from bias is well known." The corners of his mouth went down as he frowned. "Will you be willing to be used as proof that there can be no trickery?" He thought that over, then nodded slowly. The prosecution objected, and was waved down. "Will you tell me exactly where you were at any given time? Any place where you are absolutely certain and can

verify that there were no concealed cameras or observers?"

He thought. Seconds. Minutes. The tension twanged, and I swallowed dust. He spoke quietly. "1918. November 11th."

Mike whispered to me. I said, "Any particular time?"

Justice Bronson looked at Mike. "Exactly eleven. Armistice time." He paused, then went on. "Niagara Falls. Niagara Falls, New York."

I heard the dials tick in the stillness, and Mike whispered again. I said, "The lights should be off." The bailiff rose. "Will you please watch the left wall, or in that direction? I think that if Justice Kassel will turn a little . . . we are ready."

Bronson looked at me, and at the left wall. "Ready."

The lights flicked out overhead and I heard the television crews mutter. I touched Mike on the shoulder. "Show them, Mike!"

We're all showmen at heart, and Mike is no exception. Suddenly out of nowhere and into the depths poured a frozen torrent. Niagara Falls. I've mentioned, I think, that I've never got over my fear of heights. Few people ever do. I heard long, shuddery gasps as we started straight down. Down, until we stopped at the brink of the silent cataract, weird in its frozen majesty. Mike had stopped time at exactly eleven, I knew. He shifted to the American bank. Slowly he moved along. There were a few tourists standing in almost comic attitudes. There was snow on the ground, flakes in the air. Time stood still, and hearts slowed in sympathy.

Bronson snapped, "Stop!"

A couple, young. Long skirts, high-buttoned army collar, dragging army overcoat, facing, arms about each other. Mike's sleeve rustled in the darkness and they moved. She was sobbing and the soldier was smiling. She turned away her head, and he turned it back. Another couple seized them gayly, and they twirled breathlessly.

Bronson's voice was harsh. "That's enough!" The view blurred for seconds.

Washington. The White House. The President. Someone coughed like a small explosion. The President was watching a television screen. He jerked erect suddenly, startled. Mike spoke for the first time in court.

"That is the President of the United States. He is watching the trial that is being broadcast and televised from this courtroom. He is listening to what I am saying right now, and he is watching, in his television screen, as I use my machine to show him what he was doing one second ago."

The President heard those fateful words. Stiffly he threw an unconscious glance around his room at nothing and looked back at his screen in time to see himself do what he just had done, one second ago. Slowly, as if against his will, his hand started toward the switch of his set.

"Mr. President, don't turn off that set." Mike's voice was curt, almost rude. "You must hear this, you of all people in the world. You must understand!

"This is not what we wanted to

do, but we have no recourse left but to appeal to you, and to the people of this twisted world." The President might have been cast in iron. "You must see, you must understand that you have in your hands the power to make it impossible for greed-born war to be bred in secrecy and rob man of his youth or his old age or whatever he prizes." His voice softened, pleaded. "That is all we have to say. That is all we want. That is all anyone could want, ever." The President, unmoving, faded into blackness. "The lights, please," and almost immediately the Court adjourned. That was over a month ago.

Mike's machine has been taken from us, and we are under military guard. Probably it's just as well we're guarded. We understand there have been lynching parties, broken up only as far as a block or two away. Last week we watched a white-haired fanatic scream about us, on the street below. We couldn't catch what he was shrieking, but we did catch a few air-borne epithets.

"Devils! Anti-Christs! Violation of the Bible! Violations of this and that!" Some, right here in the city, I suppose, would be glad to build a bonfire to cook us right back to the flames from which we've sprung. I wonder what the various religious groups are going to do now that the truth can be seen. Who can read lips in Aramaic, or Latin, or Coptic? And is a mechanical miracle a miracle?

This changes everything. We've been moved. Where, I don't know, except that the weather is warm, and we're on some type of military reservation, by the lack of civilians. Now we know what we're up against. What started out to be just a time-killing occupation, Joe, has turned out to be a necessary preface to what I'm going to ask you to do. Finish this, and then move fast! We won't be able to get this to you for a while yet, so I'll go on for a bit the way I started, to kill time. Like our clippings:

TABLOID:

. . . Such a weapon cannot, must not be loosed in unscrupulous hands. The last professional production of the infamous pair proves what distortions can be wrested from isolated and misunderstood events. In the hands of perpetrators of heretical isms, no property, no business deal, no personal life could be sacrosanct, no foreign policy could be . .

TIMES:

. . . colonies stand with us firmly . . . liquidation of the Empire . . . white man's burden . . .

LE MATIN:

. . . rightful place . . . restore proud France . . .

PRAVDA:

. . . democratic imperialist plot . . . our glorious scientist ready to announce . . .

NICHI-NICHI:

. . . incontrovertibly prove divine descent . . .

LA PRENSA:

. . . oil concessions . . . dollar diplomacy . . .

DETROIT JOURNAL:

. . . under our noses in a sinister

fortress on East Warren . . . under close Federal supervision . . . perfection by our production-trained technicians a mighty aid to law-enforcement agencies . . . tirades against politicians and business common-sense carried too far . . . tomorrow revelations by . . .

L'OSSERVATORE ROMANO: Council of Cardinals . . . announcement expected hourly . . .

JACKSON STAR-CLARION: . . . proper handling will prove the fallacy of race equality . . .

Almost unanimously the press screamed; Pegler frothed, Winchell leered. We got the surface side of the situation from the press. But a military guard is composed of individuals, hotel room must be swept by maids, waiters must serve food, and a chain is as strong — We got what we think the truth from those who work for a living.

There are meetings on street corners and homes, two great veteran's groups have arbitrarily fired their officials, seven governors have resigned, three senators and over a dozen representatives have retired with "ill health," and the general temper is ugly. International travelers report the same of Europe, Asia is bubbling, and transport planes with motors running stud the airports of South America. A general whisper is that a Constitutional Amendment is being rammed through to forbid the use of any similar instrument by any individual, with the manufacture and leasing by the Federal government to law-enforcement agencies or financially-responsible corporations sug-

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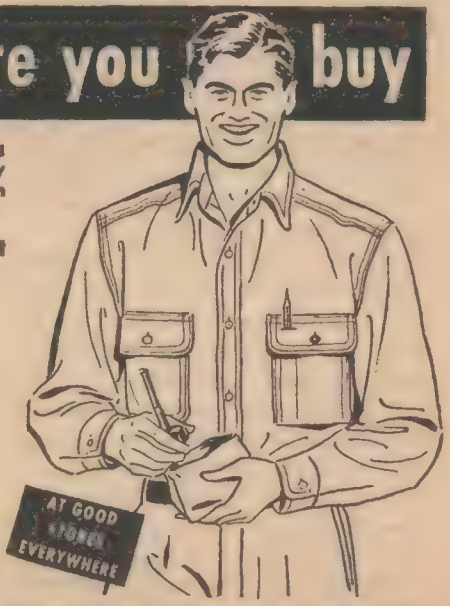

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gested; it is whispered that motor caravans are forming throughout the country for a Washington march to demand a decision by the Court on the truth of our charges; it is generally suspected that all news disseminating services are under direct Federal—Army—control; wires are supposed to be sizzling with petitions and demands to Congress, which are seldom delivered.

One day the chambermaid said: "And the whole hotel might as well close up shop. The whole floor is blocked off, there're MP's at every door, and they're clearing out all the other guests as fast as they can be moved. The whole place wouldn't be big enough to hold the letters and wires addressed to you, or the ones that are trying to get in to see you. Fat chance they have,' she added grimly. "The joint is lousy with brass."

Mike glanced at me and I cleared my throat. "What's your idea of the whole thing?"

Expertly she spanked and reversed a pillow. "I saw your last picture before they shut it down. I saw all your pictures. When I wasn't working I listened to your trial. I heard you tell them off. I never got married because my boy friend never came back from Burma. Ask *him* what he thinks," and she jerked her head at the young private that was supposed to keep her from talking. "Ask him if he wants some bunch of stinkers to start him shooting at some other poor chump. See what he says, and then ask me if I want an atom bomb dropped down my neck just because some chiselers want more than they got." She left suddenly, and the soldier left with her. Mike and I had a beer and went to bed. Next week the papers had headilnes a mile high.

U. S. KEEPS MIRACLE RAY
CONSTITUTION
AMENDMENT
AWAITS STATES OKAY
LAVIADA-LEFKO FREED

We were freed all right, Bronson and the President being responsible for that. But the President and Bronson don't know, I'm sure, that we were rearrested immediately. We were told that we'll be held in "protective custody" until enough states have ratified the proposed constitutional amendment. The Man Without a Country was in what you might call "protective custody," too. We'll likely be released the same way he was.

We're allowed no newspapers, no radio, allowed no communication coming or going, and we're given no reason, as if that were necessary. They'll never, never let us go, and they'd be fools if they did. They think that if we can't communicate, or if we can't build another machine, our fangs are drawn, and when the excitement dies, we fall into oblivion, six feet of it. Well, we can't build another machine. But, communicate?

Look at it this way. A soldier is a soldier because he wants to serve his country. A soldier doesn't want to die unless his country is at war. Even then death is only a last resort. And war isn't necessary any more, not with our machine. In the dark?

Try to plan or plot in absolute darkness, which is what would be needed. Try to plot or carry on a war without putting things in writing. O.K. Now—

The Army has Mike's machine. The Army has Mike. They call it military expediency, I suppose. Bosh! Anyone beyond the grade of moron can see that to keep that machine, to hide it, is to invite the world to attack, and attack in self-defense. If every nation, or if every man, had a machine, each would be equally open, or equally protected. But if only one nation, or only one man can see, the rest will not long be blind. Maybe we did this all wrong. God knows that we thought about it often. God knows we did our best to make an effort at keeping man out of his own trap.

There isn't much time left. One of the soldiers guarding us will get this to you, I hope, in time.

A long time ago we gave you a key, and hoped we would never have to ask you to use it. But now is the time. That key fits a box at the Detroit Savings Bank. In that box are letters. Mail them, not all at once, or in the same place. They'll go all over the world, to men we know, and have watched well; clever, honest, and capable of following the plans we've enclosed.

But you've got to hurry! One of these bright days someone is going to wonder if we've made more than one machine. We haven't, of course. That would have been foolish. But if some smart young lieutenant gets hold of that machine long enough to start tracing back our movements

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they'll find that safety deposit box, with the plans and letters ready to be scattered broadside. You can see the need for haste — if the rest of the world, or any particular nation, wants that machine bad enough, they'll fight for it. And they will! They must! Later on, when the Army gets used to the machine and its capabilities, it will become obvious to everyone, as it already has to Mike and me, that, with every plan open to inspection as soon as it's made, no nation or group of nations would have a chance in open warfare. So if there is to be an attack, it will have to be deadly, and fast, and sure. Please God that we haven't shoved the world into a war we tried to make impossible. With all the atom bombs and rockets that have been made in the past few years— *Joe, you've got to hurry!*

GHQ TO 9TH ATTK GRP

Report report report report report report report report report report

CMDR 9TH ATTK GRP TO GHQ

BEGINS: No other manuscript found. Searched body of Lefko immediately upon landing. According to plan Building Three untouched. Survivors insist both were moved from Building Seven previous day defective plumbing. Body of Laviada identified definitely through fingerprints. Request further instructions. ENDS

GHQ TO CMDR 32ND SHIELDED RGT

BEGINS: Seal area Detroit Savings Bank. Advise immediately condition safety deposit boxes. Afford coming technical unit complete cooperation. ENDS

LT. COL. TEMP. ATT. 32ND SHIELDED RGT.

BEGINS: Area Detroit Savings Bank vaporized direct hit. Radioactivity lethal. Impossible boxes or any contents survive. Repeat, direct hit. Request permission proceed Washington Area. ENDS.

GHQ. TO LT. COL. TEMP. ATT. 32ND SHIELDED RGT

BEGINS: Request denied. Sift ashes if necessary regardless cost. Repeat, regardless cost. ENDS

GHQ. TO ALL UNITS REPEAT ALL UNITS

BEGINS: Lack of enemy resistance explained misdirected atom rocket seventeen miles SSE Washington. Lone survivor completely destroyed special train claims all top officials left enemy capital two hours preceding attack. Notify local governments where found necessary and obvious cessation hostilities. Occupy present areas Plan Two. Further orders follow. ENDS

THE END.

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